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The World Market in Fresh Fruit and Vegetables, Wine, and Tropical Beverages— Government Intervention and Multilateral Policy Reform

Katharine C. Buckley

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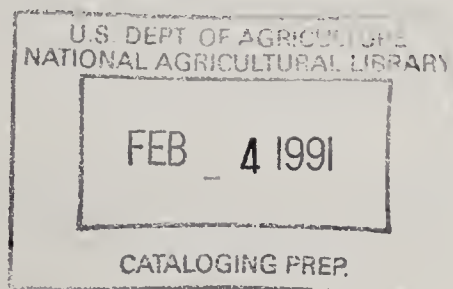
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The World Market in Fresh Fruit and Vegetables, Wine, and Tropical Beverages--
Government Intervention and Multilateral Policy Reform. Katharine C. Buckley,
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Abstract

Agriculture is a key issue in the Uruguay Round of negotiations under the auspices of the General Agreement on Tariffs and Trade (GATT). Much attention has been directed toward reaching an agreement for the multilateral elimination of government policies that distort production, consumption, and trade in agricultural commodities. While agricultural specialty commodities have not been a primary focus in these negotiations, these high-value commodities are an important source of trade revenue for many countries. This study is a qualitative analysis of the consumption, production, and trade implications of removing trade-distorting government policies for selected agricultural specialty commodities (fresh fruit and vegetables, wine, and tropical beverages) in major importing and exporting countries. Countries providing an off-season base for supplying fresh fruit and vegetables to major markets would benefit from the removal of tariffs by importing countries, but few gains would be expected from liberalizing markets for coffee and cocoa beans and tea. U.S. fruit and wine producers would likely gain from the opening of new export market opportunities.

Keywords: Trade liberalization, policy reform, fruit and vegetables, wine, coffee, tea, cocoa, world trade, government policies, intervention



Foreword

This report is a product of the trade liberalization project conducted in the Commodity Economics Division of the Economic Research Service. Eleven commodity monographs in the series "World Commodity Markets--Government Intervention and Multilateral Policy Reform" are anticipated from this study. The objectives of this series are to describe the role of individual commodities in world agricultural markets, to provide an overview of current policies for specific commodities throughout the world, and to evaluate the effects of a reduction in government supports and artificial barriers that hinder free competition among countries in the production and trade of commodities.

The monographs draw on earlier and ongoing analyses of government intervention and trade liberalization conducted by ERS in support of the Uruguay Round of multilateral trade negotiations, particularly calculations of producer and consumer subsidy equivalents and analyses of multilateral liberalization based on ERS's Static World Policy Simulation Model (SWOPSIM). The commodity reports build on these efforts and others in the agricultural economics profession to bring a commodity focus to ERS's work on global policy reform.

CED's study has been coordinated by Nicole Ballenger, Kate Buckley, and Joy Harwood. Pat O'Brien, Tony Grano, Boyd Buxton, and Glenn Zepp provided vision, direction, and support. Alden Manchester coordinated the outside reviews. Other commodity reports and authors include:

Beef--Bill Hahn, Terry Crawford, Linda Bailey, and Shayle Shagam
Coarse Grains--Bengt Hyberg, Stephanie Mercier, and Lin Hoffman
Dairy--Don Blayney and Dick Fallert
Fruits, Vegetables, Wine, and Tropical Beverages--Kate Buckley
Oilseeds--Tom Bickerton and Joe Glauber
Poultry--Bob Bishop, Lee Christensen, Stephanie Mercier, and Larry Witucki
Pork--Shayle Shagam
Rice--Nathan Childs
Sugar--Ron Lord and Bob Barry
Tobacco--Verner Grise
Wheat--Joy Harwood and Ken Bailey

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For a listing of ERS work in support of the Uruguay Round, see Bibliography of Research Supporting the Uruguay Round of the GATT, Agriculture and Trade Analysis Division, Economic Research Service, U.S. Department of Agriculture, AGES 89-64, Dec. 1989.

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Summary

As world markets for agricultural specialty commodities have expanded and become more competitive, governments have intervened in the production and marketing of many agricultural specialty commodities, either to protect domestic producers from import competition or to enhance the competitiveness of domestic producers in export markets. Impediments to imports of agricultural specialty commodities now include both import tariffs (usually seasonal and assessed at higher rates during domestic production periods) and nontariff barriers, such as phytosanitary (plant health) regulations. Government policies designed to increase the ability of domestic producers to compete in export markets may include production and export subsidies. Some governments may also extract revenues from the export of agricultural specialty commodities by imposing production or export taxes, or by controlling production and exports through government sanctioned marketing boards or parastatals.

In the past, multilateral trade negotiations (MTNs) have been effective in reducing or eliminating tariffs for some agricultural specialty commodities, particularly those for which geographic or climatic conditions restrict or prohibit domestic production in major importing countries. However, government domestic and trade policies still impede trade for many agricultural specialty commodities. This study describes world markets for selected agricultural specialty commodities, specifically fresh fruit and vegetables, wine, and tropical beverages (coffee, tea, and cocoa) and qualitatively analyzes liberalizing trade, or the removal of government policies that distort production decisions or trade in these commodities. Although these specialty commodities are not a primary focus in the current round of MTNs, the Uruguay Round, they are an important source of export revenue for many developed and developing countries. Moreover, they may also present viable production opportunities for producers seeking to diversify from other agricultural commodities for which they can no longer compete without government assistance.

Trade liberalization is not likely to result in significant expansion of world production of most fresh fruit and vegetables. However, some shifts in major trade patterns would be expected, particularly for those commodities that can be stored for relatively longer periods of time; for example, apples and potatoes. For fresh vegetables, any increase in production as a result of trade liberalization would likely occur in areas already producing fresh vegetables for major off-season export markets because local production can keep seasonal prices low enough to discourage imports during other times of the year. Such areas are Mexico, Chile, and several North African and Mediterranean countries. Any major production expansion in Latin America and Caribbean countries for increased exports of winter fresh vegetables to the United States would adversely affect U.S. vegetable producers if these countries were able to maintain lower labor costs in the absence of production subsidies and other government export incentives. Similarly, EC production of several fresh vegetables would likely contract with the removal of production support and surplus removal mechanisms, perhaps encouraging production expansions in non-EC Mediterranean countries.

Fresh fruit production would likely undergo more shifts between major production regions than would fresh vegetables with trade liberalization because fruit production is more geographically constrained by climatic conditions and existing trade patterns are broader. Elimination of the EC's

withdrawal system would likely induce some producers to shift away from the production of fruits with chronic oversupply problems, such as apples. Removal of the EC's reference price and countervailing duty scheme would also likely result in greater import competition for the fruits currently protected by this system. On the other hand, the few production incentives currently provided to U.S. fruit producers by government policies and relatively low U.S. tariff rates suggest that U.S. prices or production would not significantly change with trade liberalization, and may in fact increase with the opening of new market opportunities in Japan and other Pacific Rim countries.

Trade liberalization could provide incentives for expanding temperate fruit production in some developing countries in search of export revenues in response to depressed world prices for cocoa and several other tropical products. The United States has proposed that developing countries participate fully in adopting trade liberalization measures negotiated during the Uruguay Round, such as the elimination of production or export subsidies. However, developing countries may be allowed to implement such measures on a slower time table than other countries. This allowance could enhance their competitive advantage and encourage the expansion and development of export industries.

World production and trade patterns for table wine would undergo significant changes with trade liberalization. EC table wine production would likely contract as the elimination of export incentives and protective measures increased import competition for domestic producers as well as competition in world markets. U.S. wine producers would also be subject to greater import competition with the removal of U.S. tariffs on wine, but would likely gain market share in foreign markets with the elimination of EC export subsidies. However, the degree of market share attainable by U.S. producers will also depend on their ability to compete with such potentially low-cost production regions such as Chile and Romania.

Trade liberalization would not result in large expansions in coffee, cocoa bean, or tea markets since few importing countries erect barriers against imports of these commodities other than tariffs. Several major importing countries extended tariff concessions for coffee, tea, and cocoa in primary form as well as various processed forms during the mid-term review of the Uruguay Round held in Montreal during November 1988. However, it is unlikely that simply removing or reducing tariffs for these commodities in their primary form would significantly alter present production or trade patterns, since tariffs in many importing countries are already at relatively low levels and prices are not likely to show much improvement with their removal. Moreover, the inelastic world demand for coffee, tea, and cocoa prevents exporters from enhancing export revenues through increasing exports, because increases in export volume would cause even larger declines in world prices. Continued reduction in tariff levels for value-added coffee, tea, and cocoa products on the other hand offers the potential for increasing export revenues for many countries exporting tropical beverages.

In the United States, liberalizing world trade in agricultural specialty commodities may mean increasing import competition for some commodities. But, the adjustments necessary for moving to a free-market environment will not be as great as those for other agricultural commodities currently receiving high levels of government support.

States such as Florida and California that produce fresh vegetables for consumption during the winter months would face increased competition from foreign sources during this period. However, U.S. fresh fruit and wine producers would benefit from the relaxation of trade barriers and increased export opportunities, particularly in Japan and other Pacific Rim countries. Retention and/or expansion of domestic and world markets for fresh fruit and vegetables, and wine would require U.S. producers to remain on the cutting edge of technological innovations designed to reduce production and marketing costs in the face of increased competition from relatively lower cost production regions.

The World Market in Fresh Fruit and Vegetables, Wine, and Tropical Beverages—Government Intervention and Multilateral Policy Reform

Katharine C. Buckley

Introduction

International trade in high-value, agricultural specialty commodities consists of a wide variety of heterogeneous commodities in both fresh and processed forms. Commodities within this classification include fruit and vegetables, nuts, plants and flowers, and spices, as well as tropical beverages (coffee, tea, and cocoa) among others. Most agricultural specialty commodities are considered high-value because of their higher production and marketing costs and limited production regions and storability which lead to relatively higher prices per unit than many bulk agricultural commodities such as wheat.

While international trade in some agricultural specialty commodities, such as coffee, tea, cocoa, bananas, and spices, has taken place for centuries, others are relatively new in international markets; for example, temperate fresh fruit and vegetables. Trade activity for many agricultural specialty commodities has increased in recent years with growing consumer affluence and purchasing power in many parts of the world. Increased demand has provided the impetus for technological innovations that reduce two major trade limitations of many of these commodities: high perishability and widely varying quality and appearance. Because of these changes, production of many agricultural specialty commodities, which was once limited to local markets, has grown into regional, national, and international industries.

As world markets for many agricultural commodities have expanded, the effects of various domestic government production and trade policies on the agricultural sectors of other countries and on world trade patterns have become more apparent. The seriousness of trade distortions for some commodities, in addition to concerns over escalating budgetary expenditures for supporting and protecting agriculture in some countries, have led to a widespread call for government policy reform. Reflecting these concerns, the Ministerial Declaration opening the Uruguay Round of multilateral trade negotiations (1986-90), held under the auspices of the General Agreement on Tariffs and Trade (GATT), stated that the negotiation of agricultural policy reforms would be a key and priority issue for the round.

With the importance of the agricultural negotiations in the Uruguay Round, a plethora of empirical analyses analyzing the economic consequences of unilateral versus multilateral agricultural policy reforms and methods for

undertaking the liberalization process have been undertaken.¹ Agricultural specialty commodities are often omitted from these analyses because characteristics of many of these commodities make comprehensive empirical analysis difficult, such as the large number of heterogeneous commodities within this classification with often limited and seasonal production regions. However, these commodities can be a primary source of trade revenue for many countries, particularly less-developed countries. Moreover, they may also present viable options for producers seeking to diversify away from the production of other agricultural commodities for which they can no longer compete without government support. Furthermore, the elimination of production subsidies for specialty commodities and bulk agricultural commodities may affect markets for both commodity groups because of input market linkages.

This report describes world markets for selected agricultural specialty commodities, particularly fresh fruit and vegetables, wine, and primary tropical beverage commodities (coffee and cocoa beans and tea), and examines the possible effects of removing government policies that distort trade as a result of a successful outcome to the Uruguay Round.² The selection of fresh fruit and vegetables, wine, and tropical beverages as the commodities examined in this report provides a contrast between commodities with differing levels of support and types of government intervention. In addition, these commodities are important to the major industrialized countries (called developed countries in this report) participating in the negotiations as well as to less-developed countries (called developing countries), such as Chile, Mexico, and those of North Africa. Developing countries may be accorded special and differential treatment in the negotiations, which may allow them to remove or reduce government support to producers on a slower time table than other countries. As several developing countries are currently important players in world markets for fresh fruit and vegetables and tropical beverages, the special and differential treatment provided could affect producers in developed countries and world trade patterns for these commodities.

The GATT and Agricultural Specialty Commodities

The GATT is a multilateral agreement among countries that governs the conduct of all international trade between those countries. The institution was first established in 1947 among 23 countries. Current membership has grown to 97 countries, with an additional 31 countries also abiding by the rules and principles GATT sets forth.

¹ See, for example, (21, 23, 36, 56, 61). (Underscored numbers in parentheses refer to sources listed in the References section).

² Many of these commodities have alternative uses in the processing industries (for example, the canning, freezing, and juice industries for fruit and vegetables), or are primary commodities traded specifically for further processing (for example, coffee and cocoa beans). Liberalizing trade in these value-added commodities is also an important issue between many countries. Although this study does not specifically address these issues, it must be recognized that liberalizing trade in markets for the primary commodities will also affect their processing components.

The General Agreement outlines the principles and rules of conduct underlying the trade policies agreed upon by participating countries. These principles include (1) limiting trade barriers, (2) nondiscriminatory application of trade barriers to all member countries and reciprocity,³ (3) binding of tariff levels negotiated among members and compensating trading partners for their elimination, and (4) settling trade disputes through negotiations using codes of conduct as guidelines (19). While the GATT Secretariat and its Council of Representatives administer the General Agreement, the GATT Secretariat does not have official power for enforcement. Rather, its general function is to provide a means for governments to resolve trade conflicts by sponsoring multilateral trade negotiations, monitoring trade policies and flows, and acting as an intermediary for resolving trade disputes when necessary.

Since the first round--the Geneva Round--of multilateral trade negotiations (MTNs) sponsored by GATT opened in 1947, six subsequent rounds have resulted in a steady reduction of postwar tariff levels for most internationally traded items (14, 19). Much success has been obtained in reducing tariffs for manufactured goods. However, previous GATT rounds have produced only limited results in dealing with agricultural trade problems because tariffs, the common vehicle for GATT negotiations on manufactured goods, are less significant barriers to trade for agricultural commodities. Moreover, agriculture has been largely exempt from the GATT general prohibition of export subsidies and quantitative import restrictions in place for manufactured goods.⁴

Governments today use a wide variety of nontariff barriers, such as import quotas and export subsidies, to intervene in agricultural markets. Nontariff trade barriers contribute to price volatility in world markets, create price-depressing surpluses, and carry heavy costs to consumers and taxpayers. Since these barriers are often tied to domestic farm policies which have not been negotiable in the past, and are usually less "transparent" or quantifiable in their effects on trade, the ability of GATT principles and rules to handle agricultural trade disputes arising from nontariff barriers is obscure. However, as government expenditures and commodity surpluses have escalated in many of the major agricultural exporting countries during recent years, the desire for worldwide agricultural policy reform and strengthening of GATT principles and rules pertaining to agriculture has grown.

A Brief History of the Negotiations

Although agricultural trade barriers have been introduced as a topic for negotiation in MTNs since GATT inception, the Kennedy Round of MTNs (1964-67) represented the first major multilateral attempt within the GATT to tackle agricultural trade problems. The Kennedy Round resulted in agreements among

³ Reciprocity is the reduction of a country's import duties or other trade restraints in return for concessions from another country (29).

⁴ The United States obtained a waiver in 1955 that permitted the use of broad quantitative restrictions on U.S. imports of commodities covered by domestic farm support programs. GATT rules for agriculture were also written to permit the use of export subsidies for agricultural and other primary products with the only restriction being that they not be used to enable a country to capture a "more than equitable" share of world trade.

40 countries covering \$40 billion in world trade in agricultural and industrial products (66). Significantly more progress was made in easing access barriers for industrial products after an agreement was reached to resolve conflicts arising from nontariff barriers affecting trade in these items.⁵ Most of the Kennedy Round concessions for agricultural commodities were on tariffs. The United States gave tariff concessions for agricultural commodities valued at \$860 million and received concessions of \$866 million. The average tariff reduction on dutiable agricultural imports was 22 percent for nontropical agricultural commodities, 16 percent for tropical products, and 20 percent for total agricultural commodities (14).

The agricultural negotiations were conducted in five sectors: (1) grains, (2) red meats, (3) dairy products, (4) other temperate products (including temperate fruit and vegetables), and (5) tropical products. The first three sectors represented commodities where tariffs were considered to be only part of the total constraints to expanding world trade. Tariffs were considered more serious for other temperate products, such as fruit and vegetables, and tropical products. Negotiations for these two sectors were centered around tariff reductions.

During the Kennedy Round, the United States granted concessions on fruit and vegetable sector imports valued at \$305 million.⁶ This represented 62 percent of the total trade available for concessions in the sector (66). The concessions granted were heavily in favor of tropical fruits, vegetables, and nuts not produced in the United States, such as bananas and cashew nuts, which together totaled \$170 million.⁷ Most other concessions in the sector were for commodities supplied by the European Community (EC) and Canada.

The United States also received concessions on a variety of commodities in the fruit and vegetable sector, valued at \$167 million (66). Appendix table 1 presents a partial list of concessions received by the United States for selected fresh fruit and vegetables. Similar to the concessions received by the United States for other commodities, the concessions received for fresh fruit and vegetables were primarily in the form of tariff reductions (48 of the 54 concessions listed in appendix table 1), while the remainder consisted of binding existing tariff rates.

⁵ Agriculture was not included in these liberalization efforts because of the Section 22 waiver obtained by the United States in 1955 and the precedent it set for allowing other countries to protect their agricultural sectors as well (19).

⁶ Commodities considered in the fruit and vegetable sector included fresh and processed vegetables (including pulses), fresh and processed fruits and nuts, fruit and vegetable juices (including champagne, wine, vermouth, and brandy), nursery stock (including live plants, bulbs, roots, and seedlings), and miscellaneous products such as hops, pectin, and essential oils.

⁷ The United States granted concessions valued at \$7 million for fresh fruit imports from developing countries. Under the rules established for the Kennedy Round negotiations, it was agreed that developed countries could not expect to receive full reciprocity from developing countries.

Coffee, tea, and cocoa were among other agricultural specialty commodities included in the tropical product sector negotiations.⁸ Concessions granted by the United States on coffee, tea, and related products in the Kennedy Round totaled \$1.1 million; duties on raw, roasted, or ground coffee imports, valued at \$1.13 billion, and crude or prepared tea imports, valued at \$60 million, were bound at zero in previous negotiations (66). The United States also received concessions on these products worth \$7.5 million, primarily from Canada, EC-6, Norway, United Kingdom, Finland, Sweden, Korea, and Japan.

The United States granted concessions on cocoa and cocoa products valued at \$14.7 million. Reduction of the tariff on unsweetened chocolate primarily benefited the Dominican Republic as the largest supplier to the United States at the time, while reduction of the tariff on unsweetened cocoa benefited the EC (66). The concessions received by the United States on cocoa and cocoa products covered \$2 million in U.S. exports of these products.

Additional tariff cuts for agricultural and agricultural specialty commodities were made during the Tokyo Round of MTNs (1973-79). Negotiators also made some progress on the elimination of nontariff barriers affecting citrus, among other commodities (65). Appendix table 2 provides a partial list of tariff concessions received by the United States for a variety of fresh fruit and vegetables, and wine. Most important was the Canadian agreement to eliminate discriminatory market practices for a variety of U.S. wines in Canadian markets and the concessions received for U.S. citrus imports.

The United States sought concessions on U.S. citrus exports from 14 countries and received them from 11. Most important, Japan conceded to bind its tariff rates and increase quotas on U.S. fresh orange imports and to reduce tariff rates for U.S. grapefruit, lemons, and limes (65).⁹ Tariff reductions sought from the EC for U.S. citrus imports were not conceded; the EC conceded to reduce only the ad valorem duty on U.S. grapefruit imports from 4 to 3 percent.

The Tokyo Round provided the first substantial opportunity for developing countries to actively participate in GATT-sponsored MTNs when negotiators singled out tropical products as a special and priority sector. Tropical products had received only limited attention in previous MTNs because major emphasis was placed on reducing access barriers for temperate agricultural commodity exports originating primarily in developed countries. Tropical products emerged as a separate group from agricultural products so that the needs of developing countries could be accommodated without all the intricacies surrounding agricultural trade issues. A separate group for tropical products fosters special and differential treatment for many low-income developing countries.

With the formation of a separate group to negotiate trade barriers for tropical products, agricultural specialty commodities are now divided between two areas of negotiations within the GATT. Those agricultural specialty

⁸ Commodities in this sector included sugar, molasses, honey, coffee, tea, cocoa, spices, condiments, and other miscellaneous tropical products such as coconuts (66).

⁹ The increase in the Japanese orange quota was relatively small considering the size of the Japanese market.

commodities grown in temperate climates, for example, apples and tomatoes, have typically been included in negotiations on agricultural products, while those grown in tropical climates, such as bananas and tropical beverages, were addressed in the negotiations on tropical products. However, arbitrary distinctions exist between those commodities designated as agricultural products and those designated as tropical. For example, whereas tobacco, rice, and sugar are produced in both tropical and temperate climates, only tobacco and rice are designated as tropical products by the GATT Secretariat, although sugar is also a major export commodity of many developing countries in tropical areas.¹⁰ Another example is the definition of a fruit as temperate or semi-tropical as opposed to tropical, such as citrus. This definition becomes even more obscure as more developing countries are expanding production of fruit and vegetables generally defined as temperate, such as apples, in tropical or semi-tropical areas.

The lack of a clear distinction between tropical and agricultural products hampered negotiations for agricultural specialty commodities in the Tokyo Round and in subsequent discussions within the GATT forum. In the Tokyo Round, the developing countries requested concessions with respect to the elimination of all access barriers affecting all products produced in tropical areas in both their primary and processed forms. This definition of tropical products was resisted by most developed countries because of the wide variety of products involved, many of which could also be produced or processed in developed countries. Because a set definition has yet to be agreed upon between developed and developing countries, the GATT Secretariat compiled and presented an "indicative" list of tropical products to facilitate negotiations, which currently centers around seven commodity groups:

- o tropical beverages (coffee, tea, cocoa);
- o spices, essential oils, natural gums, plaiting products, cut flowers, and plants;
- o certain oilseeds, vegetable oils, and groundnuts (including palm and coconut oils and oil cakes);
- o tobacco and tobacco products, rice, manioc, and tropical roots;
- o tropical fruits and nuts (including bananas, pineapples, mangoes, and pistachios);
- o tropical wood and wood products (except pulp and paper), natural rubber and rubber products (including rubber tubes and tires, but not rubber shoes); and
- o jute and hard fibers, raw and processed (including yarn, fabric, twine, floor coverings, and sacks).

The list was not meant to be exhaustive and all-inclusive; its purpose was to serve only as a guideline for the negotiations.

¹⁰ All three of these commodities have historically been included in the agricultural negotiations.

Trade disputes involving agricultural specialty commodities have accelerated since the Tokyo Round as governments in many countries have increased levels of producer subsidization and protective measures against import competition. U.S. producers of agricultural specialty commodities have been particularly susceptible to competition in world markets and at home because of relatively few government policies that protect or subsidize producers compared with the government assistance provided to competing producers in other countries. Trade disputes have involved both fresh and processed agricultural specialty commodities. Since 1975, 12 petitions alleging dumping and other unfair trade practices involving fresh and processed fruit and vegetables alone have been filed with the U.S. Government by U.S. producers and trade associations (8). These cases are representative of the atmosphere in which the eighth round of GATT-sponsored MTNs, the Uruguay Round, opened in September 1986.

Agricultural Specialty Commodities in the Uruguay Round

The Ministerial Declaration launching the Uruguay Round formally recognized the need for global reforms in domestic agricultural policies in addition to reforms in agricultural trade policies, and that current GATT rules and procedures governing agricultural trade were inadequate. The objectives of the agricultural negotiations focus on (1) reducing use of domestic and export subsidies, (2) improving market access, (3) harmonizing sanitary and phytosanitary barriers, and (4) strengthening the rules of GATT in agricultural trade (4). Similar objectives were set for the negotiations on tropical products; negotiators were directed to give specific consideration to the elimination or substantial reduction of (1) duties on unprocessed products, (2) duties on semi-processed and processed tropical products, and (3) all nontariff measures affecting trade in tropical products. The negotiations are scheduled to conclude at the end of 1990.

Agriculture in the Uruguay Round

Key players in the Uruguay Round negotiations on agriculture include the United States, EC, the Cairns Group, and Japan.¹¹ The agricultural support and trade policies of these countries, while vastly different in their form, have significant effects on international markets and prices for many agricultural commodities. Thus, there is substantial interest on the part of other market participants and trading partners to find a mutually agreeable course of action for implementing multilateral domestic agricultural and trade policy reform. A successful outcome, however, will require countries to reconcile fundamental differences in their domestic agricultural interests and policies or to mutually agree on a course of action for implementing reforms.

Six major proposals for implementing agricultural reform were submitted to GATT during 1988 and 1989 which provided the foundation for ongoing

¹¹ The Cairns Group is comprised of Argentina, Australia, Brazil, Canada, Chile, Colombia, Hungary, Indonesia, Malaysia, New Zealand, Philippines, Thailand, and Uruguay. The group was formed in 1983 in response to the depressed commodity prices stemming from the U.S./EC subsidy wars, which contributed to lost markets and reduced earnings for their predominantly export-dependent agricultural sectors.

negotiations (table 1).¹² These proposals were submitted by the United States, EC, Japan, Canada, Cairns Group, and the Nordic countries (Finland, Iceland, Norway, and Sweden). While the proposals each shared some common elements, the substance and focus of each proposal regarding the degree, the mechanism for changing these policies, and whether reform should be achieved in the short or the long term differed widely.¹³

¹² An additional proposal was later submitted by several food importers, including Egypt, Jamaica, Mexico, Morocco, and Peru, calling attention to the need for greater regard for the positions of net food importers.

¹³ For more indepth discussion of the proposals and the Uruguay Round in general, see for example (4, 19, 25).

Table 1--Main elements of major negotiating proposals

United States (submitted October 25, 1989)

- Replace nontariff barriers with tariff-rate quota system, to be phased down to zero or low levels over 10-year period (tariffication).
- Phase-out export subsidies over 5-year period.
- Assign domestic policies to three groups: to be phased out (payments tied to output), to be disciplined (input, investment subsidies), and permitted (decoupled income support, environmental, disaster assistance, research, education).
- Treatment of less-developed countries based on development level in each.

European Community (submitted December 20, 1989)

- Reduce support and protection. Commitments would be expressed in terms of an aggregate measure.
- A form of tariffication could be accepted.
- Variable levies would be converted to fixed and variable components, fixed component reduced in line with other commitments and variable component to fluctuate according to market conditions. Deficiency payments to be included in tariffication.
- Flexibility in application of GATT rules to less-developed countries according to their actual level of development.

Cairns Group (submitted November 20, 1989)

- Prohibit measures not explicitly provided for in GATT rules (includes variable levies and quantity restraints--amounts to tariffication).
- All tariffs bound at low levels or zero.
- Prohibit new and phase-out existing export subsidies.
- Reduce internal support through use of an aggregate measure of support where calculable, otherwise through commitments to reductions in support prices and budget expenditures.
- Similar internal policy categories to U.S. proposal.
- Measures in less-developed countries which encourage development to be exempt.

Japan (submitted November 27, 1989)

- Emphasizes special nature of agriculture and food security.
- Insists on countries' right to support certain level of self-sufficiency in "basic foodstuffs."
- Export subsidies should be reduced and eliminated.
- Domestic support with no (or negligible) trade-distorting effects should be permitted; other policies reduced through commitments based on an aggregate measure of support.
- Allow less-developed countries longer timeframe to achieve Uruguay Round goals.

Nordic Group (submitted December 19, 1989)

- Support gradual change in level and form of border protection.
- Tariffication is among feasible alternatives.
- Most export subsidies should be eliminated. Trade-distorting domestic subsidies should be displaced.
- Objective needs of individual less-developed countries must be considered.

Net Food Importing Developing Countries

- Negotiators should consider the special interests and problems of importers.
 - Should continue special treatment of less-developed countries and food aid.
 - Increased financial assistance should be given to food importing developing countries to compensate for post-liberalization price increases.
 - Stricter discipline applied to export subsidies.
-

The proposals differed widely in terms of orientations for long- and/or short-term goals for global agricultural reforms, and none presented a method for attaining the goals suggested. However, the proposals did share some common elements. These included (1) the necessity of international standardization of sanitary and phytosanitary regulations with an objective of reducing countries' use of these regulations as barriers to trade and (2) the recognition that special and differential treatment is needed for developing countries in negotiating a reform process. Finally, all the proposals except for the Japanese proposal included a role for an aggregate measure of government support (AMS) for agriculture. The producer subsidy equivalent (PSE) and a variant of the PSE concept, the trade distortion equivalent (TDE), have been proposed for this purpose (see box).

Trade ministers meeting in Geneva during April 1989 agreed on a framework for proceeding with the Uruguay Round negotiations on agriculture. The framework endorsed includes interrelated long- and short-term measures for reducing government intervention in world markets for agricultural products and set objectives for standardizing sanitary and phytosanitary regulations between countries.

Trade ministers agreed that, in the short term, GATT participants would undertake to ensure that (1) current domestic and export support and protection levels for agricultural commodities are not exceeded, (2) all tariff and nontariff barriers in place at the time of the mid-term review are not intensified nor expanded to additional commodities, (3) access barriers for individual commodities in 1989 and 1990 do not exceed those on average in 1987 and 1988, (4) direct or indirect government support prices are not raised above levels in force at the time of the mid-term review (as expressed in national currencies, or European Currency Units for the EC), and (5) current support levels for any given agricultural commodity are not increased. These measures were to remain in effect from the mid-term review until long-term agricultural reform negotiations conclude at the end of the Uruguay Round in December 1990.

The trade ministers also agreed that the long-term objective of the negotiations is to establish a market-oriented system for trade in agricultural commodities through negotiating commitments on support and protection and strengthened GATT rules. Proposals to achieve these objectives were to be submitted by December 1989. The U.S. proposal, submitted in November 1989, called for (1) the phase-out of traditional forms of support that are directly tied to production and price levels over a 10-year period, (2) the reduction of certain other internal support measures that are less often abused but can still lead to distortions over a 10-year period through the use of an aggregate measure of support, (3) the conversion of all nontariff import barriers to tariffs, to be reduced over time along with previously existing tariffs, (4) the elimination of all export subsidies within a 5-year period, and (5) the establishment of new procedures for notification, consultation, and dispute settlement for sanitary and phytosanitary measures. At the same time, policies deemed "minimally trade-distorting" would be permitted. The U.S. proposal also recognized the need for special treatment of developing countries and stated that the contributions made by these countries to the negotiations should reflect their individual levels of economic and agricultural development.

Aggregate Measures of Support

Producer subsidy equivalents (PSE) and trade distortion equivalents (TDE) roughly estimate the cash subsidy that a government would have to offer to compensate producers for removing current government programs. PSEs are usually expressed as ratios or percentages of total direct and indirect government transfers to producers of a commodity to the total value of that commodity to producers; that is, market revenue plus any direct government payments. PSEs were first developed as a tool for comparing levels of government agricultural support across countries and across commodities within a country. These measurements were widely used by the Organization for Economic Cooperation and Development (OECD). Over the past several years, USDA's Economic Research Service (ERS) has extended calculation of the measure to additional commodities and countries (61, 73).

Some observers have suggested that a PSE or TDE type measurement can provide a basis for negotiating reductions in production, as tariffs have in the past. A problem in using the PSE in trade negotiations is that while it accounts for both taxpayer and consumer transfers to agriculture, it does not consider the degree to which the various policies affect trade. For example, a dollar of support through the provision of research and extension services carries the same weight in the calculation as does a dollar of support from import quotas, even though the effects on trade greatly differ.

The Canadian and Nordic proposals submitted to the GATT suggested using the TDE as the measure of government support. The TDE excludes types of government support that have minimal effects on trade. The Canadians have suggested that government expenditures for agricultural education, research, and extension be excluded for this reason. The TDE might also exclude, for example, price stabilization measures, tax benefits, and investment aids (35, 53).

PSEs have yet to be developed for agricultural specialty commodities, with the exception of coffee, tea, and cocoa in selected countries. For many of these commodities, development and use of an aggregate measure of support, such as PSEs and TDEs, to negotiate or monitor reductions in government support and protection levels across countries will be problematic. Agricultural specialty commodities are highly heterogeneous in terms of quality, variety, and seasonality. This complicates derivation of an aggregate measure of support for like commodities across countries, and use of such a measure in the negotiations would require the assumption that agricultural specialty commodities traded between countries are basically homogeneous with domestic production in terms of quality and variety. Moreover, there is a lack of consistent data series and availability for calculating an aggregate measure of support for many agricultural specialty commodities in most countries.

Tropical Products in the Uruguay Round

An agreement was reached in the tropical products negotiations during the GATT ministerial meeting held in Montreal during December 1988. Previous to the Montreal meeting, countries participating in the tropical products negotiations entered into a request-offer process (see box) without U.S. participation, and arrived at an interim package of concessions in November

Request-Offer Approach

The request-offer approach has traditionally been used for negotiating tropical products as an alternative to developing a set definition since the Tokyo Round. Using the request-offer approach, developing countries request concessions on specific products and are given, in turn, offers from other countries. Countries could then decide whether to grant or reject the concession requested by the developing countries, or to make a counter-offer. The United States resisted this process for the Uruguay Round because its position on tropical products paralleled the U.S. position on all agricultural products--total elimination of all trade-distorting measures--and it was felt that concessions offered would not be comprehensive enough to provide market opportunities arising from substantial trade reforms.

1988. Key participants in the tropical products negotiations included the EC, Canada, Japan, Brazil, Colombia, Australia, Austria, Malaysia, Thailand, Switzerland, Finland, Iceland, Norway, Sweden, Guatemala, Honduras, Costa Rica, El Salvador, Nicaragua, and Mexico. Although several countries stated their intention to immediately implement their concessions, formal implementation of the final agreement was put on hold until after the April 1990 Geneva meeting.

The United States offered a separate package of concessions at Montreal after a previous U.S. proposal to the GATT for tropical product trade reforms submitted during September 1988 was rejected.¹⁴ The U.S. concessions were made an addendum to the agreement pending a successful outcome for the agricultural product negotiations.

The final agreement provided tariff cuts for a variety of tropical products, including assorted tropical fruits, coffee, tea, and processed cocoa products in several countries currently maintaining high tariff levels, such as Japan and the EC (app. table 3). Other countries, such as Australia and New Zealand, conceded duty-free status or bound tariff levels at existing rates for several products. The United States has maintained duty-free status for most of the commodities included in appendix table 3 for many years.

The tariff concessions granted on the major agricultural tropical products in Montreal (green and roasted coffee; cocoa beans, paste, butter, and powder; tea; and bananas) were valued at \$239.9 million, representing about one-fourth of the total tariff revenue collected by the conceding countries importing these commodities in 1986 (table 2). Overall, of the eight major tropical commodities, the magnitude of the tariff concessions by the conceding countries was greatest for tea and green coffee.

The concessions granted by the EC accounted for 41 percent of the total revenue lost by all conceding countries from reducing or eliminating their various tariffs on the above commodities. However, the concessions granted by

¹⁴ The U.S. proposal called for the elimination of all barriers affecting market access in all countries for an agreed list of tropical products, with a focus on those products for which market access is a significant problem.

Table 2--Effect of GATT mid-term review concessions for tropical products 1/

Country	Variable	Units	Coffee		Cocoa				Tea	Bananas	Total
			Green	Roast	Beans	Paste	Butter	Powder			
Australia	Imports	1,000 T	31.0	0.8	1.2	0.0	8.5	12.3	24.7	0.8	
	Imports	Mil \$	111.4	5.9	2.6	0.0	39.7	13.3	37.7	0.2	210.8
	Old tariff	Percent	2.0	10.0	2.0	0.0	0.0	0.0	0.0		
	New tariff	Percent	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Rev left 2/	Mil \$	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Rev lost 3/	Mil \$	2.2	0.6	0.1	0.0	0.0	0.0	0.0	0.0	2.9
Austria	Imports	1,000 T	62.0	2.0	9.2	1.3	4.4	2.3	3.5	207.9	
	Imports	Mil \$	222.8	15.7	19.7	3.4	20.6	2.5	5.4	47.4	337.5
	Old tariff	Percent	0.0	15.6	0.0	0.0	0.0	7.0	0.0	0.0	
	New tariff	Percent	0.0	7.8	0.0	0.0	0.0	0.0	0.0	0.0	
	Rev left	Mil \$	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2
	Rev lost	Mil \$	0.0	1.2	0.0	0.0	0.0	0.2	0.0	0.0	1.4
Canada	Imports	1,000 T	89.0	8.9	19.7	0.0	5.4	13.0	37.9	480.7	
	Imports	Mil \$	319.8	70.0	42.1	0.0	25.2	14.1	58.0	109.6	638.9
	Old tariff	Percent	0.0	5.6	0.0	0.0	0.0	10.0	86.0	0.0	
	New tariff	Percent	0.0	5.6	0.0	0.0	0.0	10.0	0.0	0.0	
	Rev left	Mil \$	0.0	3.9	0.0	0.0	0.0	1.4	0.0	0.0	5.3
	Rev lost	Mil \$	0.0	0.0	0.0	0.0	0.0	0.0	49.9	0.0	49.9
EC	Imports	1,000 T	1,688.2	84.7	722.9	51.3	114.3	91.6	390.2	5,131.6	
	Imports	Mil \$	6,065.7	666.6	1,546.3	135.2	534.0	99.4	596.6	1,170.0	10,813.8
	Old tariff	Percent	5.0	12.5	0.0	11.0	8.0	16.0	5.0	20.0	
	New tariff	Percent	4.0	12.0	0.0	11.0	8.0	12.0	0.0	20.0	
	Rev left	Mil \$	242.6	80.0	0.0	14.9	42.7	11.9	0.0	234.0	626.1
	Rev lost	Mil \$	60.7	3.3	0.0	0.0	0.0	4.0	29.8	0.0	97.8
Finland	Imports	1,000 T	57.9	0.0	0.3	2.5	2.0	1.1	4.1	140.4	
	Imports	Mil \$	208.0	0.2	0.6	6.6	9.3	1.2	6.3	32.0	264.3
	Old tariff	Percent	3.0	7.7	3.7	3.0	1.8	6.0		22.0	
	New tariff	Percent	3.0	7.7	3.7	3.0	1.8	6.0		8.0	
	Rev left	Mil \$	6.2	0.0	0.0	0.2	0.2	0.1	0.0	2.6	9.3
	Rev lost	Mil \$	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	4.5
Japan	Imports	1,000 T	242.5	0.5	38.3	3.3	8.5	0.0	70.1	1,671.1	
	Imports	Mil \$	871.3	3.9	81.9	8.7	39.7	0.0	107.2	381.0	1,493.8
	Old tariff	Percent	0.0	20.0	0.0	5.0	0.0	15.0	35.0	18.0	
	New tariff	Percent	0.0	10.0	0.0	3.5	0.0	10.5	5.0	15.0	
	Rev left	Mil \$	0.0	0.4	0.0	0.3	0.0	0.0	5.4	57.2	63.2
	Rev lost	Mil \$	0.0	0.4	0.0	0.1	0.0	0.0	32.2	11.4	44.1
New Zealand	Imports	1,000 T	7.1	0.0	5.0	0.6	1.0	0.3	6.6	71.1	
	Imports	Mil \$	25.5	0.1	10.7	1.6	4.7	0.3	10.1	16.2	69.1
	Old tariff	Percent	0.0	23.0	0.0	23.5	0.0	23.5	0.0	0.0	
	New tariff	Percent	0.0	14.5	0.0	15.0	0.0	15.0	0.0	0.0	
	Rev left	Mil \$	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.3
	Rev lost	Mil \$	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2
Norway	Imports	1,000 T	39.7	1.5	5.7	0.1	2.3	0.5	6.0	115.8	
	Imports	Mil \$	142.6	11.8	12.2	0.3	10.7	0.5	9.1	26.4	213.7
	Old tariff	Percent	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	New tariff	Percent	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Rev left	Mil \$	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Rev lost	Mil \$	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sweden	Imports	1,000 T	93.3	1.5	3.7	1.2	4.9	4.0	11.6	242.5	
	Imports	Mil \$	335.2	11.8	7.9	3.2	22.9	4.3	17.7	55.3	458.3
	Old tariff	Percent	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	New tariff	Percent	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Rev left	Mil \$	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Rev lost	Mil \$	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

See footnotes at end of table.

Continued--

Table 2--Effect of GATT mid-term review concessions for tropical products 1/--Continued

Country	Variable	Units	Coffee		Cocoa				Tea	Bananas	Total
			Green	Roast	Beans	Paste	Butter	Powder			
Switzerland	Imports	1,000	64.3	2.4	19.5	0.5	11.4	1.1	6.0	200.4	
	Imports	Mil \$	220.3	18.9	41.7	1.3	53.3	1.2	9.1	45.7	391.4
	Old tariff	Percent	9.8	14.2	0.0	84.2	3.0	143.8	0.0	18.0	
	New tariff	Percent	3.4	5.0	0.0	84.2	3.0	71.9	0.0	9.0	
	Rev left	Mil \$	7.6	0.9	0.0	1.1	1.6	0.9	0.0	4.1	16.2
	Rev lost	Mil \$	14.0	1.7	0.0	0.0	0.0	0.9	0.0	4.1	20.7
United States	Imports	1,000 T	117.8	13.3	204.7	50.7	70.3	89.5	86.7	3,213.2	
	Imports	Mil \$	4,206.7	104.7	437.9	133.6	328.4	97.1	32.6	732.6	6,173.6
	Old tariff	Percent	0.0	0.0	0.0	0.0	0.0	76.0	0.0	0.0	
	New tariff	Percent	0.0	0.0	0.0	0.0	0.0	57.0	0.0	0.0	
	Rev left	Mil \$	0.0	0.0	0.0	0.0	0.0	55.4	0.0	0.0	55.4
	Rev lost	Mil \$	0.0	0.0	0.0	0.0	0.0	18.5	0.0	0.0	18.5
Table totals	Imports	1,000 T	3,542.8	115.6	1,030.2	111.5	233.0	215.7	47.4	11,475.4	
	Imports	Mil \$	12,729.3	909.7	2,203.6	293.9	1,088.6	234.1	89.8	2,616.4	21,065.3
	World imports	Percent	86.1	94.4	73.6	70.3	94.5	86.6	42.4	92.7	81.9
	Rev left	Mil \$	256.4	86.5	0.0	16.7	44.5	69.7	5.4	297.8	777.0
	Rev lost	Mil \$	76.9	7.3	0.1	0.3	0.0	23.5	11.9	20.0	239.9
World	Imports	Mil \$	14,779.1	964.1	2,992.7	417.8	1,152.1	270.2	2,337.0	2,821.9	25,734.8
	Price	\$/ton	3,593.0	7,870.0	2,139.0	2,636.0	4,672.0	1,085.0	1,529.0	228.0	
	SIC code		0901.1	0901.2	1801	1803	1804	1805	0902.3	0803	

1/ Based on 1986 trade of major tropical commodities.

2/ Tariff revenue remaining after concessions based on 1986 level of imports.

3/ Tariff revenue lost from concessions based on 1986 level of imports.

Notes:

Australia Roasted coffee based on specific tariff and 1986 price.

Canada Tea tariff does not agree with previously published free tariff rate.

Coffee and tea based on specific tariffs and 1986 prices.

EC Roast coffee, cocoa paste, and cocoa butter concessions are not shown fully because previous Generalized System of Preference rates were used here.

Finland Coffee and cocoa concessions are not shown fully because previous Generalized System of Preference rates were used here.

Banana tariffs vary seasonally.

Japan Cocoa butter concessions are not shown fully because previous Generalized System of Preference rates were used here.

Banana tariffs vary seasonally.

Switzerland Coffee tariffs vary with development category of exporter.

United States Previous rate on cocoa powder as reported in GATT is much below rate implied by previously published specific tariff.

Source: Agriculture and Trade Analysis Division, Economic Research Service, U.S. Department of Agriculture.

the EC (valued at \$97.8 million in 1986) represented only a 14-percent reduction in EC tariff revenues for the tropical products considered, and the revenue generated by the EC's remaining tariffs remains the highest of the 11 countries examined.

The concessions granted by several other countries were relatively more substantial in terms of reducing their levels of protection vis-a-vis tariffs. For example, the concessions granted by Canada and Switzerland reduced their level of tariff revenues by well over 50 percent, and Japan by 41 percent. The concessions granted by the United States (valued at \$18.5 million in 1986) represented a 25-percent reduction in U.S. tariff revenues from cocoa powder imports, the only commodity under consideration for which the United States still collects tariffs.

Agricultural Specialty Commodities: World Market Overview

Agricultural specialty commodities are consumed in most parts of the world. Seasonality of production, storability, and transportation costs largely determine the source of supply and availability of agricultural specialty commodities. World production areas for some agricultural specialty commodities, such as tropical fruit and beverages, are geographically limited, necessitating near year-round, or year-round imports, to meet consumer demand in most other countries. These special production areas tend to be located primarily in developing countries where producers have a comparative advantage in the production of commodities such as bananas, cocoa, and coffee. Often, the production and export of tropical fruit and beverages provide a primary source of export revenue and foreign exchange for developing countries and commodities are produced almost exclusively for export.

On the other hand, production of most temperate agricultural specialty commodities, such as tomatoes and apples, is more geographically widespread and inherently more seasonal. In many countries, production of temperate agricultural specialty commodities has shifted away from widespread small-scale production into large-scale production on specialized farms that are highly concentrated in areas offering extended production seasons. Trade in these commodities has expanded as technological advancements in transportation methods have allowed producers also to take advantage of seasonal export opportunities. As a result, consumers in developed countries are now provided with a year-round selection of a variety of specialty commodities once only available during local or regional production seasons.

Fresh Fruit and Vegetables

International trade for a variety of fresh fruit and vegetables has increased because of rising demand in many countries, coupled with technological improvements in storage facilities and transportation methods, and the development of new varieties better able to withstand bulk handling and shipment.

Consumption Trends

Data on fresh fruit and vegetable consumption are not available for many countries.¹⁵ However, the OECD (Organization for Economic Cooperation and Development) provides a source of per capita consumption data for major

¹⁵ The lack of commodity data in many countries complicates an assessment of the changes in worldwide consumption patterns for fresh fruits and vegetables. Where available, international consumption data are often incomplete and dated upon release. In addition, data collection procedures may not be consistent across countries and one is cautioned against drawing major conclusions based on the absolute magnitudes of the numbers shown. The data are often best interpreted as proxies showing the direction of change; that is, increasing or decreasing consumption.

agricultural commodities consumed in its member countries (49).¹⁶ OECD data show that the trend of total per capita consumption of fresh fruit and vegetables in member countries has ranged from relatively flat to slightly declining since 1976 (tables 3 and 4). However, consumption trends vary widely among countries. While fresh fruit and vegetable consumption has significantly increased in some OECD countries, such as Spain and Italy, others have experienced little growth, especially in fruit consumption; for example, Austria and Canada. However, consumption data in some countries may be understated if reporting procedures did not account for fresh produce sold in farmer-type markets or roadside stands.

Per capita consumption of fresh vegetables is highest in Turkey, Italy, Spain, Portugal, and Japan, and lowest in Finland, Norway, and Sweden. The relatively large levels of per capita consumption in Turkey, Italy, Spain, and Portugal reflect the optimal growing conditions in these countries and extended seasons for producing a variety of fresh vegetables. However, consumption in Finland, Denmark, and Sweden is increasing at dramatic rates due to greater availability from local greenhouse production and rising imports. Average per capita fresh vegetable consumption across the OECD countries reached a 10-year high of 86.4 kilograms (kg) per person in 1984, up from 79.5 kg reported in 1976.

Fresh potatoes are the most heavily consumed vegetable in OECD countries, accounting for 41 percent of total fresh vegetable consumption in 1985. Per capita fresh potato consumption in these countries was almost as high as that for all other fresh vegetables combined in 1985 (tables 3 and 5). Whereas Ireland, Spain, and the United Kingdom are heavy fresh potato consumers, consumption in the United States and Japan is relatively low. This reflects the rising trend in processed potato consumption in these countries.

Average per capita fresh fruit consumption in the OECD member countries has ranged between 69 and 77 kg per person over the past 10 years, but consumption has declined in several countries (table 4). Significant declines were experienced in Yugoslavia and Portugal, while consumption in Australia grew dramatically. The data also show that the Netherlands, Spain, Italy, and Germany have exceptionally high levels of fresh fruit consumption, and Japan has an exceptionally low level. U.S. consumption is about the same as that in most other OECD countries.

¹⁶ Organized under the auspices of the United Nations, the objective of the OECD is to promote policies to (1) achieve economic growth and a rising standard of living in its member countries, while maintaining financial stability, (2) contribute to sound economic expansion in member and nonmember countries in the process of economic development, and (3) contribute to world trade expansion on a multilateral, nondiscriminatory basis in accordance with international obligations. Member countries today are Australia, Austria, Belgium, Canada, Denmark, Finland, France, West Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, Norway, New Zealand, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States. Yugoslavia also participates in some OECD activities as determined in an agreement signed in October 1961.

Table 3--Per capita fresh vegetable consumption in OECD countries, 1976-85 1/

Country	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
<u>Kilograms</u>										
Australia	73.3	73.4	84.2	75.0	72.3	75.5	72.7	76.6	85.4	78.9
Austria	67.4	78.9	78.2	86.6	89.8	89.9	89.9	53.4	67.9	71.3
Belgium/Luxembourg	64.8	80.3	69.1	54.2	57.7	75.7	73.5	72.2	80.9	84.1
Canada	51.3	49.9	53.3	56.5	56.9	56.2	59.4	60.6	62.6	65.0
Denmark	50.7	61.1	55.4	58.6	58.3	62.3	64.1	60.0	62.2	72.8
Finland	20.9	20.9	21.0	21.2	20.9	21.3	28.6	35.8	36.5	36.9
France	99.1	111.5	112.3	116.6	108.2	107.5	114.3	112.9	108.2	NA
Germany	75.2	77.3	81.8	78.7	69.5	73.9	73.7	72.9	77.8	80.7
Ireland	78.4	78.2	75.7	79.9	78.2	81.6	80.7	85.8	87.1	84.2
Italy	141.5	151.8	155.2	160.8	168.1	153.1	160.7	172.7	176.0	151.6
Japan	109.9	113.9	113.5	111.6	110.5	111.4	112.2	107.8	110.5	108.6
Netherlands	54.8	66.0	66.5	69.1	57.6	62.5	69.1	58.5	65.7	63.4
New Zealand	72.4	54.5	64.9	60.2	69.6	65.3	63.9	NA	NA	NA
Norway	36.7	40.6	41.6	40.0	47.0	42.9	44.2	42.9	43.7	38.1
Portugal	122.6	135.6	124.1	120.6	113.3	NA	NA	NA	NA	NA
Spain	120.3	125.8	127.5	123.7	125.9	120.2	115.9	115.0	119.3	122.5
Sweden	29.5	29.9	29.2	30.9	28.7	31.8	31.7	30.6	34.8	35.2
Switzerland	88.8	94.4	101.1	81.9	85.4	90.1	87.0	85.1	90.3	90.6
Turkey	175.0	179.5	173.6	209.2	194.6	191.9	184.7	182.6	184.4	187.7
United Kingdom	68.4	97.7	75.7	82.1	79.4	83.2	89.1	87.0	84.2	96.4
United States	64.1	65.1	66.0	66.4	67.5	66.3	69.2	72.7	68.4	70.7
Yugoslavia	83.7	91.3	81.7	81.2	79.1	88.6	88.1	73.7	82.2	73.3
Average	79.5	85.3	84.2	84.8	83.6	83.4	84.4	82.9	86.4	84.8

NA=Not available.

1/ Excludes potatoes.

Source: (49).

Table 4--Per capita fresh fruit consumption in OECD countries, 1976-85

Country	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
<u>Kilograms</u>										
Australia	65.6	65.1	66.6	79.9	74.1	79.8	86.9	89.8	87.3	83.4
Austria	93.2	86.2	85.3	89.8	89.1	83.8	86.8	87.0	85.3	86.5
Belgium/Luxembourg	77.7	68.1	82.8	86.1	84.2	70.4	76.6	73.4	65.5	74.1
Canada	60.2	57.3	56.0	55.3	60.4	63.3	58.7	58.1	59.4	60.4
Denmark	51.0	46.0	51.7	49.2	46.6	41.2	43.9	47.3	48.0	51.0
Finland	67.1	63.7	63.8	68.8	69.9	67.3	65.9	58.9	58.8	56.9
France	77.2	68.9	71.7	73.1	70.9	72.6	73.9	77.4	71.1	NA
Germany	110.9	98.2	121.9	122.2	112.4	91.9	121.0	103.2	111.1	107.3
Ireland	36.5	37.0	39.9	38.9	45.0	46.5	43.6	43.0	46.1	47.1
Italy	104.7	97.9	101.9	106.6	109.5	109.3	109.3	108.1	102.2	111.1
Japan	39.6	41.3	40.3	40.6	38.9	38.3	39.5	39.7	34.5	37.1
Netherlands	145.5	136.6	138.4	151.2	156.3	143.6	153.4	163.6	145.7	149.7
New Zealand	68.6	70.1	77.2	72.2	81.6	80.8	83.1	NA	NA	NA
Norway	69.3	66.3	71.1	66.0	68.0	69.0	68.7	57.2	56.3	60.3
Portugal	70.9	54.4	55.5	58.6	59.5	50.5	60.1	58.6	52.6	52.9
Spain	122.8	98.1	120.7	121.3	132.0	125.2	131.0	147.5	123.3	138.1
Sweden	58.7	57.8	55.9	55.6	49.8	51.8	51.2	50.1	50.9	51.9
Switzerland	85.1	86.4	85.2	98.6	94.3	79.7	100.2	88.9	91.5	85.0
Turkey	72.0	75.0	75.8	78.3	73.6	76.6	81.3	82.8	85.8	82.2
United Kingdom	44.8	42.7	44.6	46.3	46.8	46.2	47.1	49.0	59.5	48.6
United States	49.0	47.8	47.9	48.2	49.8	50.9	52.2	52.8	51.0	51.5
Yugoslavia	70.3	66.9	64.0	64.4	60.9	63.6	56.0	66.3	57.2	48.9
Average	74.6	69.6	73.6	76.0	76.1	72.8	76.8	76.3	73.5	74.2

NA=Not available.

Source: (49).

Table 5--Per capita fresh potato consumption in OECD countries, 1976-85

Country	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
<u>Kilograms</u>										
Australia	48.5	50.8	51.8	55.1	55.3	56.5	51.5	61.3	60.2	58.0
Austria	59.5	59.5	59.5	59.6	59.6	59.5	60.0	60.9	61.6	61.7
Belgium/Luxembourg	98.4	101.1	97.9	95.9	101.2	103.1	99.0	88.9	103.0	98.0
Canada	66.7	71.3	74.7	77.2	70.9	64.8	66.7	76.9	60.6	67.7
Denmark	49.1	65.3	65.0	68.4	68.3	67.9	68.0	68.8	64.7	64.0
Finland	55.4	55.3	59.1	59.4	59.2	59.0	59.9	60.1	70.7	68.1
France	73.1	82.1	80.1	76.9	73.7	72.9	74.7	74.9	73.7	75.5
Germany	83.0	86.0	91.4	86.1	80.6	74.2	73.7	70.0	72.5	77.8
Ireland	127.3	128.7	129.8	130.6	130.0	128.1	127.8	125.4	127.3	126.3
Italy	34.6	40.8	36.5	39.5	41.7	38.7	41.5	35.6	38.7	35.5
Japan	12.3	13.0	13.7	13.6	13.4	13.2	14.1	13.9	13.4	13.9
Netherlands	77.9	83.1	80.2	83.8	81.0	81.8	81.3	81.4	87.6	86.6
New Zealand	55.3	56.4	52.5	41.5	45.6	43.8	54.8	48.6	56.0	55.0
Norway	79.0	78.7	75.4	73.9	70.5	71.2	73.4	75.6	77.5	79.8
Portugal	94.2	89.5	95.1	87.6	101.2	84.0	95.6	89.4	88.4	92.5
Spain	115.6	113.2	108.1	114.4	113.1	105.8	105.9	102.6	114.4	111.1
Sweden	78.6	80.5	78.2	74.9	71.8	69.9	70.0	70.6	70.0	69.9
Switzerland	47.7	48.1	48.7	48.5	48.3	46.4	47.6	44.5	48.4	45.8
Turkey	53.6	51.8	50.1	51.1	52.6	51.4	49.5	49.6	50.3	67.6
United Kingdom	83.9	90.9	98.0	99.0	101.8	104.9	104.5	105.0	106.0	110.2
United States	22.9	24.3	23.0	24.6	26.1	22.2	23.4	22.4	19.5	19.9
Yugoslavia	64.1	64.2	58.9	57.0	50.2	56.9	58.6	58.5	53.6	49.7
Average	67.3	69.8	69.4	69.0	68.9	67.1	68.3	67.5	69.0	69.8

Source: (49).

Major Exporters

Growing at an average annual rate of 3 percent since 1979, world exports of fresh fruit and vegetables reached 41.5 billion metric tons in 1988, and were valued at \$18.6 billion (fig. 1). About 63 percent of the total export value during that year was accounted for by fresh fruit exports, at \$11.7 billion.

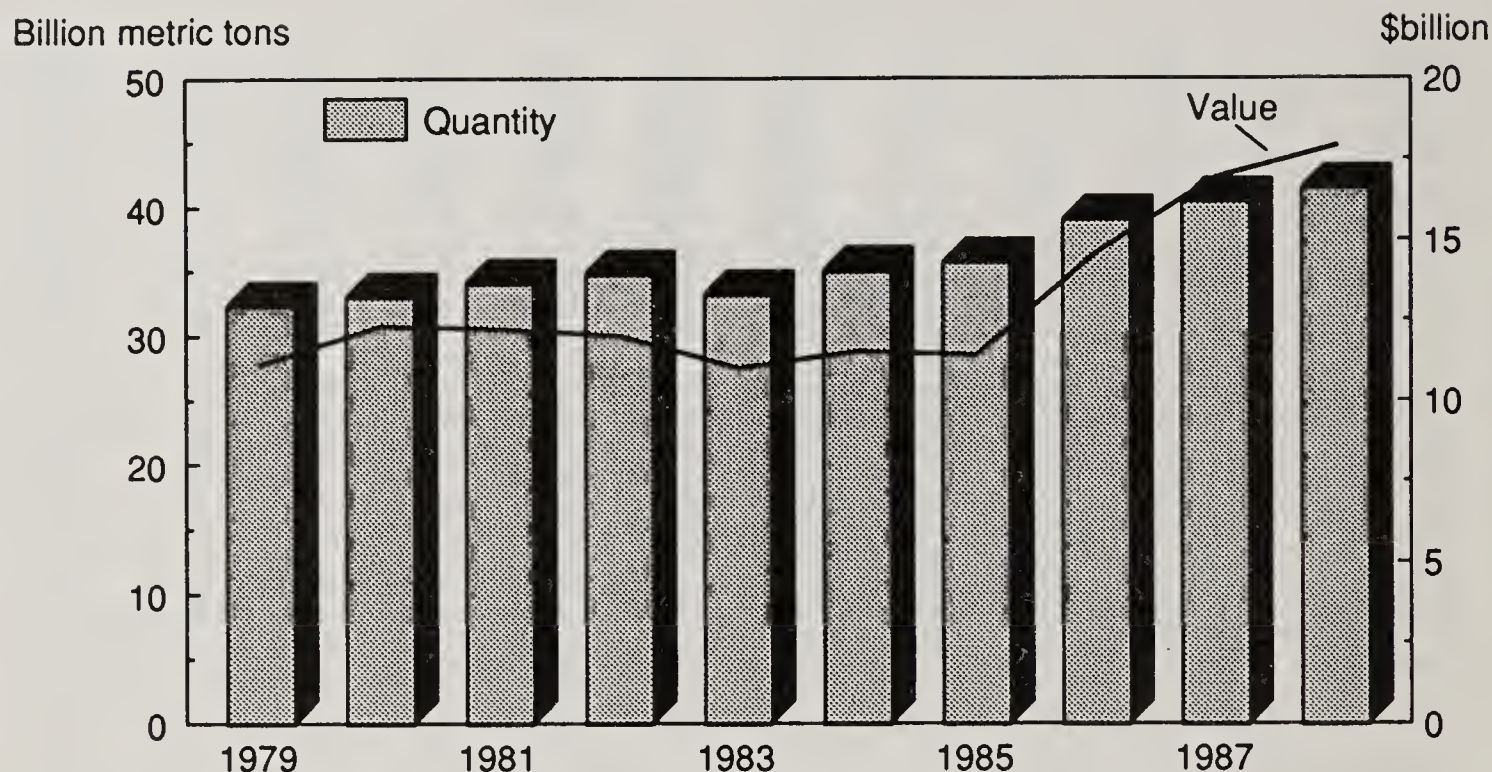
A variety of fresh fruit and vegetables is traded in world markets. However, the bulk of total world export value of fresh fruit and vegetables is accounted for by relatively few commodities. In 1988, the top six vegetable exports (tomatoes, potatoes, lettuce, cucumbers, green peppers, and dry onions) accounted for 65 percent of the total world export value of fresh vegetables (table 6). And, about 76 percent of the world value of fresh fruit exports during the same year was accounted for by eight fruits: bananas, oranges, apples, grapes, tangerines, mandarins, clementines, and satsumas (table 7).

While most countries produce at least some fruit and vegetables, only a few are major exporters. In 1988, 15 countries accounted for over 71 percent of the total value of world fresh fruit and vegetable exports; 5 countries, Spain, the Netherlands, Italy, the United States, and France, alone accounted for over 50 percent (table 8).

Spain. In Spain, optimal growing conditions during much of the year and irrigation permit extended production of a wide variety of fruit and vegetables. Since the Spanish accession into the EC during 1986, the country has become the Community's primary supplier for a variety of fresh fruit and

Figure 1

World fresh fruit and vegetable exports



Source: (28).

vegetables as well as the world's largest exporter. Spain can supply much of the EC by land transportation, which gives Spanish producers an advantage over producers in other countries who must rely on relatively more expensive containerized boat transportation.

In 1988, Spain's primary fresh fruit and vegetable exports were oranges, tangerines, mandarins, clementines, satsumas, tomatoes, lemons, limes, and strawberries (table 9). Together, these commodities accounted for 63 percent of the total value of Spain's fresh fruit and vegetable exports during that year. Other major fresh fruit and vegetable exports include peppers, cantaloupes, lettuce, watermelons, and grapes.

Netherlands. Since fruit and vegetables are high-value commodities, many of which can be grown in relatively concentrated areas, production is well suited to the Netherlands' limited land availability. However, because climatic conditions present few opportunities for extended growing seasons, producers in the Netherlands have developed a large fresh vegetable industry based on greenhouse production.¹⁷ The Netherlands has consequently become a major

¹⁷ Greenhouse vegetable production also provides one solution to the problem in the Netherlands of how to dispose of the country's large amount of hog waste, since it can be used to generate the electricity necessary to heat greenhouses.

Table 6--World fresh vegetable exports, by commodity, 1984-88 1/

Commodity	Quantity					Value				
	1984	1985	1986	1987	1988	1984	1985	1986	1987	1988
	Metric tons					1,000 dollars				
Tomatoes	2,111,212	2,240,588	2,355,438	2,360,010	2,304,177	997,609	957,819	1,425,884	1,471,198	1,587,981
Potatoes	4,787,892	5,048,390	5,524,792	6,338,196	6,435,607	1,002,559	624,394	833,294	1,088,558	1,048,139
Lettuce	462,963	477,550	550,841	620,619	620,661	283,032	317,100	371,798	545,063	542,964
Cucumbers and gherkins	770,887	886,902	866,592	827,067	858,536	272,080	296,131	358,964	433,896	457,523
Green peppers and chiles	360,850	431,871	429,432	458,573	474,555	198,664	206,043	272,475	371,684	427,917
Onions, dry	1,754,442	1,719,391	1,761,997	1,791,353	1,910,951	392,081	257,668	294,729	412,419	412,414
Mushrooms	40,605	51,546	59,612	66,344	78,063	87,062	113,033	163,135	209,859	284,912
Cauliflower	342,305	234,521	331,031	267,294	408,094	112,343	99,539	135,476	154,704	222,263
Asparagus	42,827	48,601	46,399	61,778	76,564	94,479	99,546	120,156	169,519	219,826
Carrots	475,685	507,590	501,652	523,304	608,415	109,323	129,123	123,311	151,830	193,176
Cabbages	424,562	447,951	438,900	424,568	458,440	124,038	115,896	122,492	151,555	178,415
Garlic	109,973	105,326	187,234	191,369	226,727	71,422	69,868	131,653	129,475	136,814
Pumpkins and squash	174,289	265,829	289,758	302,533	252,175	49,629	62,200	86,720	108,861	131,854
Beans, green	70,612	86,992	96,001	99,959	103,119	36,064	38,862	50,201	70,868	84,841
Sweet potatoes	121,835	393,814	581,262	672,196	566,427	10,409	47,551	69,573	87,752	80,874
Eggplant	97,207	103,926	99,411	99,068	98,817	36,463	38,493	48,135	59,233	73,066
Green onions and shallots	200,394	176,430	160,776	217,393	254,208	52,220	32,313	39,290	54,848	59,619
Artichokes	39,808	35,204	44,749	46,582	46,625	19,422	18,777	26,178	32,894	36,289
Peas, green	30,230	34,979	37,730	36,912	67,750	12,833	13,008	15,607	19,201	35,564
Broad beans, green	10,514	18,163	18,411	24,231	21,855	3,676	7,455	8,740	18,742	20,078
Corn	3	59	1	14,191	18,840	9	48	1	6,955	12,010
Spinach	17,486	22,917	19,213	16,585	18,381	4,275	4,645	5,143	6,698	8,030
Okra	828	1,883	716	1,077	17,126	255	379	189	637	1,977
String beans	0	1,098	828	613	598	0	311	391	322	383
Other	1,272,994	1,427,329	1,357,488	1,527,570	1,578,108	473,245	486,074	550,990	634,353	666,346
World total	13,720,403	14,768,850	15,760,264	16,989,385	17,504,819	4,443,192	4,036,276	5,254,525	6,391,124	6,923,275

1/ Ranked according to 1988 value.

Source: (27).

Table 7--World fresh fruit exports, by commodity, 1984-88 1/

Commodity	Quantity					Value				
	1984	1985	1986	1987	1988	1984	1985	1986	1987	1988
			Metric tons					1,000 dollars		
Bananas	6,895,180	6,736,498	7,255,247	7,474,494	7,641,239	1,463,653	1,483,448	1,753,650	1,942,836	2,000,550
Oranges	3,939,366	3,717,520	4,381,389	4,243,441	4,228,637	1,179,779	1,240,602	1,505,794	1,681,918	1,720,653
Apples	3,468,689	3,302,494	3,541,843	3,578,983	3,605,374	1,141,697	1,060,167	1,407,841	1,577,567	1,597,073
Grapes	1,174,346	1,424,670	1,440,401	1,410,366	1,474,955	737,862	826,953	1,003,274	1,145,940	1,303,380
Tangerines 2/	1,329,727	1,210,037	1,558,920	1,245,893	1,242,825	469,551	452,185	706,686	673,975	715,555
Peaches and nectarines	593,753	614,511	598,797	706,619	667,145	324,867	333,725	441,792	537,070	546,150
Pears	642,633	661,944	625,692	768,834	819,613	279,294	295,007	369,947	451,616	513,115
Lemons and limes	995,366	1,040,130	1,049,375	1,043,434	1,040,447	333,747	418,028	423,768	419,295	483,044
Grapefruit and pomelo	810,980	743,043	866,933	982,625	1,079,926	263,766	270,244	363,147	427,862	462,421
Strawberries	156,752	168,136	189,003	250,495	254,808	221,082	213,399	251,386	433,464	453,969
Watermelons	678,648	563,885	739,862	746,846	1,474,955	132,622	91,781	180,372	217,821	226,102
Cantaloupes 3/	310,549	459,604	381,960	379,297	550,651	98,417	132,479	146,259	180,267	248,046
Pineapples	409,676	465,168	515,832	568,639	543,964	96,599	123,127	160,337	206,221	190,540
Dates	142,985	231,944	243,978	194,322	249,720	126,034	187,701	194,551	149,846	182,532
Plums	172,961	179,689	198,557	235,983	221,549	84,014	85,859	114,415	141,750	151,814
Cherries	74,127	71,115	66,896	93,435	84,250	73,016	74,235	91,167	142,475	138,784
Avocados	91,948	104,770	122,055	122,581	81,473	86,474	86,569	120,096	126,755	104,094
Apricots	85,544	92,372	93,789	93,576	106,000	39,685	52,384	56,313	75,038	91,911
Mangoes	92,670	81,280	90,282	96,941	124,850	51,151	42,026	49,993	56,404	80,192
Plantains	52,442	85,980	60,050	46,012	154,074	9,722	22,360	9,914	7,827	26,639
Raspberries	15,865	15,510	18,581	26,021	18,754	14,950	16,804	25,016	30,209	26,429
Blueberries	9,536	10,373	14,272	19,538	16,055	8,546	9,989	11,914	18,335	24,500
Papayas	20,207	17,143	17,846	11,844	29,037	6,370	5,002	7,828	8,565	18,345
Persimmons	22,126	36,978	35,568	37,118	38,829	7,016	13,872	13,547	13,739	15,249
Currants	9,100	8,760	10,108	9,714	6,922	4,033	3,893	5,083	6,857	7,111
Figs	3,977	2,603	3,938	4,011	6,514	2,690	2,804	4,217	4,814	6,790
Sour cherries	8,182	6,616	7,142	7,645	10,808	3,903	2,549	4,730	5,042	6,404
Gooseberries	9,235	6,909	5,954	2,087	5,536	4,602	3,921	4,098	2,274	4,045
Quinces	3,498	3,257	5,670	5,741	7,033	938	1,014	1,729	2,108	2,366
Cranberries	124	264	391	204	791	244	392	620	551	2,018
Other	420,636	499,094	707,243	670,297	464,399	344,890	352,787	557,291	635,858	340,101
World total	22,640,828	22,562,297	24,847,574	25,077,036	26,251,133	7,611,214	7,905,306	9,986,775	11,324,299	11,689,922

1/ Ranked according to 1988 value.

2/ Includes mandarins, clementines, and satsumas.

3/ Includes other melons.

Source: (27).

Table 8--Quantity and value of fruit and vegetables: World exports, by the top 15 countries, 1979-88

Country	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Quantity:										
					<u>Metric tons</u>					
Spain	2,854,427	2,614,815	2,962,893	3,118,519	2,890,478	4,039,677	3,354,271	4,733,173	4,555,287	4,424,487
Netherlands	3,020,606	3,282,209	3,506,805	3,833,999	3,588,690	3,635,955	3,760,617	4,039,289	4,456,626	4,333,707
Italy	2,800,681	2,573,740	2,588,548	2,397,810	2,794,258	2,459,028	2,663,913	2,526,103	2,594,925	2,486,460
United States	2,148,800	2,370,110	2,573,210	2,169,150	2,336,498	2,105,825	1,858,031	1,995,280	2,235,551	2,487,989
France	1,764,640	2,057,175	2,082,731	1,780,121	1,710,415	1,740,200	1,817,359	1,853,209	2,148,190	2,220,626
Mexico	1,123,200	1,259,477	1,199,028	1,385,516	866,097	1,263,053	1,475,436	1,517,869	1,619,645	1,740,842
Chile	233,697	310,530	356,515	406,498	433,360	506,798	616,542	794,217	764,969	905,313
South Africa	666,959	755,376	731,985	764,636	675,115	729,953	684,202	715,087	766,390	839,110
Honduras	1,001,206	1,037,417	852,557	965,363	767,835	821,392	916,910	873,184	967,758	969,198
Greece	435,011	630,655	406,220	580,134	635,789	588,920	761,949	766,019	582,161	636,553
Canada	293,641	390,323	410,908	503,810	450,929	926,915	1,077,980	1,365,995	1,410,828	1,556,281
Costa Rica	1,044,915	1,001,373	1,029,123	1,045,312	1,039,520	104,552	875,447	927,703	1,050,771	1,100,813
Israel	1,080,821	864,532	1,007,009	936,455	775,606	746,585	720,736	706,774	709,151	545,012
China	451,877	444,176	397,906	448,045	505,057	412,162	678,695	954,030	1,088,278	1,001,378
Morocco	723,018	924,513	758,406	694,805	660,096	665,352	711,738	751,354	654,024	727,299
Other	12,738,953	12,623,723	13,328,339	13,869,460	13,194,399	14,381,873	13,870,997	14,624,976	14,917,246	15,485,311
Total world	32,382,452	33,140,144	34,192,183	34,899,633	33,324,142	35,128,240	35,844,823	39,144,262	40,521,800	41,460,379
Value:										
					<u>1,000 dollars</u>					
Spain	1,351,307	1,354,276	1,270,639	1,254,754	1,017,423	1,305,770	1,166,138	1,813,598	2,344,313	2,659,593
Netherlands	1,260,320	1,477,391	1,387,263	1,386,705	1,292,638	1,390,333	1,277,747	1,724,008	2,246,079	2,348,126
Italy	1,482,712	1,489,461	1,246,842	1,209,911	1,230,513	1,065,963	1,139,699	1,428,937	1,668,572	1,670,052
United States	896,149	1,031,763	1,253,260	1,121,477	1,147,387	1,084,208	1,012,467	1,124,748	1,296,873	1,479,136
France	780,158	909,430	868,527	782,151	685,570	681,989	661,513	879,371	1,183,346	1,185,913
Mexico	292,546	424,705	469,916	334,279	232,826	372,529	355,724	670,629	524,958	607,341
Chile	110,891	150,981	180,013	210,816	213,720	300,031	363,741	472,243	522,500	571,470
South Africa	314,293	336,558	327,969	337,615	273,455	271,718	223,967	304,010	358,770	393,550
Honduras	200,460	246,497	214,196	234,331	217,335	252,003	292,353	278,687	354,311	331,073
Greece	196,233	296,926	207,320	283,483	242,853	235,744	256,023	293,708	265,688	300,868
Canada	66,742	89,646	113,051	127,152	124,500	118,645	113,494	130,299	147,294	178,808
Costa Rica	194,701	215,424	230,378	234,444	221,018	258,554	210,542	233,103	254,731	281,732
Israel	343,590	320,232	345,592	301,900	257,557	226,180	267,616	306,042	342,191	272,433
China	110,891	150,981	180,013	210,816	213,720	109,382	155,059	236,556	252,921	271,973
Morocco	305,001	380,632	262,092	223,249	209,944	170,741	196,429	264,174	258,690	266,484
Other	3,220,460	3,413,428	3,681,647	3,725,949	3,437,224	3,671,166	3,732,780	4,464,503	4,868,479	5,128,299
Total world	11,126,454	12,288,331	12,238,718	11,979,032	11,017,683	11,514,956	11,425,292	14,624,616	16,889,716	17,946,851

Source: (28).

Table 9--Quantity and value of selected fruit and vegetables exports, Spain, 1979-88

Commodity	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<u>Metric tons</u>										
Quantity:										
Oranges	904,145	824,908	766,719	811,734	660,410	1,112,004	607,397	1,302,334	1,125,070	1,138,469
Tangerines 1/	647,480	510,811	587,508	587,954	578,151	913,899	727,760	1,051,384	822,507	746,523
Tomatoes	315,411	273,306	359,328	355,261	323,955	365,476	396,075	398,358	410,490	402,441
Lemons and limes	219,395	218,482	233,894	364,924	249,926	361,700	224,472	338,366	414,093	405,226
Strawberries	7,471	8,550	12,494	14,006	20,579	32,420	46,701	76,504	110,497	117,008
Peppers, green and chile	38,719	55,619	74,903	97,320	112,416	126,054	175,419	194,563	242,152	219,534
Cantaloupes	62,020	67,710	69,225	60,618	85,111	91,662	107,157	131,280	128,808	125,184
Lettuce	25,196	23,443	25,674	27,025	29,585	39,839	64,935	77,249	107,692	122,887
Watermelons	31,211	44,565	70,905	81,594	94,340	106,724	87,326	125,450	123,195	127,541
Grapes	80,017	65,746	81,462	69,150	73,220	95,179	96,137	124,271	111,884	80,534
Other	523,362	521,675	680,781	648,933	662,785	794,720	820,892	913,414	958,899	939,140
Total	2,854,427	2,614,815	2,962,893	3,118,519	2,890,478	4,039,677	3,354,271	4,733,173	4,555,287	4,424,487
<u>1,000 dollars</u>										
Value:										
Oranges	384,160	384,892	295,149	279,407	209,004	311,958	176,827	392,047	449,831	526,655
Tangerines 1/	334,416	290,187	272,456	270,337	227,459	317,575	264,824	491,153	480,778	484,831
Tomatoes	199,901	188,355	205,662	209,526	151,582	152,162	156,000	180,680	237,664	270,449
Lemons and limes	105,614	118,279	106,653	126,845	87,558	101,563	98,763	135,516	158,671	213,779
Strawberries	10,319	12,458	17,486	20,711	28,442	40,527	51,355	65,321	177,757	181,979
Peppers, green and chile	24,869	32,754	38,807	43,618	43,259	49,366	64,173	85,946	155,586	174,693
Cantaloupes	25,709	27,122	23,213	18,445	22,408	21,813	25,821	48,196	68,871	82,811
Lettuce	8,321	9,582	9,561	11,196	10,918	17,491	26,089	27,240	53,568	71,924
Watermelons	7,349	10,801	15,065	18,146	16,562	16,336	19,000	36,495	48,779	70,607
Grapes	4,118	38,666	45,367	37,656	30,198	40,941	40,433	64,515	67,525	61,573
Other	246,531	241,180	241,220	218,867	190,033	236,038	242,853	286,489	445,283	520,292
Total	1,351,307	1,354,276	1,270,639	1,254,754	1,017,423	1,305,770	1,166,138	1,813,598	2,344,313	2,659,593

1/ Includes mandarins, clementines, and satsumas.
Source: (28).

producer and exporter of greenhouse tomatoes and cucumbers, and a primary supplier to other EC countries. The Netherlands exports primarily fresh vegetables, although apples and pears are also important contributors to the total value of the country's fresh fruit vegetable exports (table 10).

Italy. In Italy, fruit and vegetables are produced on many very small farms located primarily in the southern part of the country. Farm incomes traditionally have been relatively poor in southern Italy. Thus, long-term agricultural policy goals have emphasized continued agricultural development and modernization to increase production and reduce Italy's agricultural trade deficit.

As a member of the EC, Italy sought increased Common Agricultural Policy market supports and EC funding to improve farm structures in the southern region (60). This support has been especially important for the Italian fruit and vegetable industry because fruit and vegetables have been the largest contributor to Italy's total agricultural export value over the past few years but the rate of growth in fruit and vegetable exports has been relatively slow (62). In recent years, efforts to diversify Italy's production base in fruit and vegetables have resulted in large investments into the production of less traditional fruit and vegetables, such as kiwifruit, the bulk of which is likely to be exported. In 1988, the top 10 fresh fruit and vegetable exports accounted for 83 percent of the total export value of fresh fruits and vegetables; four commodities, grapes, peaches, nectarines, and apples, alone accounted for over 50 percent of the total value (table 11).

United States. The United States is a major producer and exporter of a variety of fruit and vegetables. U.S. production of most fruit and vegetables is geographically widespread and highly seasonal, but production of some commodities takes place year-around in some States, such as Florida and California.

U.S. exports consist primarily of fresh fruit (table 12). In 1988, fresh fruit exports accounted for 62 percent of the U.S. total export value of all fresh fruits and vegetables. However, lettuce and tomato exports are also important contributors. Major U.S. export markets for fresh fruits and vegetables include the Pacific Rim countries and Canada.

France. France was the fifth largest world exporter of fresh fruit and vegetables in 1988. As a member of the EC, other EC countries are major market outlets for France's fresh produce exports. However, other important markets also include the United States and Canada, particularly for certain varieties of apples. In 1988, apples accounted for 31 percent of the total value of France's fresh fruit and vegetable exports (table 13). Other significant exports in terms of value include potatoes, cauliflower, asparagus, lettuce, pears, strawberries, peaches, nectarines, cantaloupes, and mushrooms.

Mexico and Chile. Fruit and vegetable production has rapidly expanded in Mexico and Chile, where produce is grown primarily for export. This expansion was often aided by U.S. investment for the development of alternative supply sources for off-season fruit and vegetables. Whereas Mexico is now the primary off-season supplier of a variety of fresh vegetables to U.S. and Canadian markets, Chile is the largest supplier of off-season fruits. In 1987, fruits and vegetables were the second most important source of

Table 10--Quantity and value of selected fruit and vegetable exports, Netherlands, 1979-88

Commodity	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<u>Metric tons</u>										
Quantity:										
Tomatoes	344,352	357,450	373,934	424,775	434,374	461,083	504,657	525,378	530,375	547,241
Potatoes	1,380,930	1,559,454	1,703,244	1,942,055	1,678,007	1,663,215	1,631,125	1,824,138	2,106,310	1,906,388
Cucumbers	270,345	271,835	266,016	260,704	272,136	279,542	278,301	311,306	309,509	319,742
Peppers, green and chile	22,721	26,448	30,242	38,457	43,486	44,729	53,960	56,226	63,736	76,730
Lettuce	99,958	98,838	94,910	100,093	87,408	92,740	104,340	106,579	110,997	112,969
Apples	132,110	160,382	171,217	133,433	147,443	153,255	164,393	172,341	191,606	200,052
Onions, dry	415,819	419,236	432,897	457,837	449,240	427,452	426,794	409,782	453,761	431,073
Cabbages	100,772	121,404	135,993	135,967	116,596	128,440	123,464	129,884	129,501	132,881
Pears	50,365	52,079	51,955	57,600	61,625	54,830	68,234	70,143	70,024	90,114
Mushrooms	3,455	3,582	3,555	3,883	5,569	8,184	12,444	20,744	24,985	25,378
Other	199,779	211,501	242,842	279,195	292,806	322,485	392,905	412,768	465,822	491,139
Total	3,020,606	3,282,209	3,506,805	3,833,999	3,588,690	3,635,955	3,760,617	4,039,289	4,456,626	4,333,707
<u>1,000 dollars</u>										
Value:										
Tomatoes	307,278	394,223	350,128	347,005	349,296	339,421	341,169	483,929	603,963	638,306
Potatoes	272,911	275,030	282,501	334,091	273,830	342,200	197,053	265,412	368,565	327,422
Cucumbers	166,919	198,925	156,658	147,044	141,128	145,782	152,028	200,831	264,893	269,933
Peppers, green and chile	38,287	50,036	48,491	52,543	53,838	59,673	65,966	98,989	133,386	161,423
Lettuce	118,964	104,071	108,685	85,857	83,412	85,247	105,482	115,989	162,540	156,664
Apples	71,725	100,086	97,406	102,015	71,682	73,079	72,812	99,818	122,635	137,070
Onions, dry	75,779	118,612	100,067	74,996	72,330	91,564	50,390	62,696	94,290	161,423
Cabbages	44,100	48,589	53,891	45,482	37,957	42,678	36,904	43,111	52,855	65,058
Pears	28,271	31,124	28,592	37,163	32,097	28,661	32,724	48,283	49,448	63,670
Mushrooms	6,125	7,383	6,183	7,002	9,386	13,163	18,393	38,754	55,942	63,069
Other	129,961	149,312	154,661	153,507	167,682	168,865	204,826	266,196	337,562	304,088
Total	1,260,320	1,477,391	1,387,263	1,386,705	1,292,638	1,390,333	1,277,747	1,724,008	2,246,079	2,348,126

Source: (28).

Table 11--Quantity and value of selected fruit and vegetable exports, Italy, 1979-88

Commodity	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Metric tons										
Quantity:										
Grapes	469,997	384,427	405,731	357,525	484,040	365,615	510,259	476,497	477,974	421,841
Peaches and nectarines	346,790	283,584	335,613	365,496	436,056	391,761	386,367	352,563	434,032	373,919
Apples	303,440	327,254	404,227	341,529	437,323	390,593	352,543	307,403	346,646	339,772
Potatoes	404,125	372,664	374,938	287,553	396,747	329,849	315,295	317,186	292,017	275,535
Lettuce	53,799	53,957	34,380	58,836	54,842	59,777	67,080	95,958	113,288	93,582
Strawberries	103,168	92,945	64,550	60,361	66,631	61,422	63,771	43,704	55,925	45,512
Pears	158,553	145,616	173,730	113,452	126,758	116,912	85,968	76,266	73,761	82,966
Carrots	89,583	79,410	81,857	90,649	85,527	99,947	112,387	100,028	116,351	145,546
Cauliflower	57,213	70,941	45,961	65,080	73,640	69,921	28,370	59,083	87,483	102,804
Oranges	107,868	132,542	108,219	127,169	131,829	136,851	159,914	183,684	151,009	180,868
Other	706,145	630,400	559,342	530,160	500,865	436,380	581,959	513,731	446,439	424,115
Total	2,800,681	2,573,740	2,588,548	2,397,810	2,794,258	2,459,028	2,663,913	2,526,103	2,594,925	2,486,460
1,000 dollars										
Value:										
Grapes	263,068	235,533	214,929	180,216	239,729	169,167	234,856	299,218	345,228	369,183
Peaches and nectarines	236,456	226,859	200,236	232,331	263,948	209,718	207,612	275,606	341,614	315,122
Apples	129,601	158,516	151,452	172,883	139,676	132,441	111,768	151,913	163,918	167,823
Potatoes	95,753	96,173	86,034	100,046	73,555	110,283	55,505	83,543	84,107	100,646
Lettuce	31,542	30,859	24,577	26,293	28,214	30,687	42,214	61,252	97,162	91,430
Strawberries	154,392	176,683	112,122	101,908	98,104	88,761	78,350	74,280	103,222	90,942
Pears	87,515	76,383	79,037	52,936	52,522	46,002	42,227	56,935	62,583	71,344
Carrots	31,169	35,806	38,387	28,122	33,065	27,992	40,582	32,733	49,492	63,104
Cauliflower	26,517	26,493	18,987	23,495	22,533	21,104	13,697	28,669	49,756	62,241
Oranges	45,224	56,511	36,219	39,061	43,996	33,525	53,561	65,840	59,391	51,874
Other	381,475	369,645	284,862	252,620	235,171	196,283	259,327	298,948	312,099	286,343
Total	1,482,712	1,489,461	1,246,842	1,209,911	1,230,513	1,065,963	1,139,699	1,428,937	1,668,572	1,670,052

Source: (28).

Table 12--Quantity and value of selected fruit and vegetable exports, United States, 1979-88

Commodity	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<u>Metric tons</u>										
Quantity:										
Grapefruit	272,755	287,914	291,480	260,899	307,258	248,137	204,366	282,336	361,593	462,961
Oranges	281,922	432,941	406,482	327,019	462,875	351,669	387,447	394,690	386,701	340,032
Apples	214,040	256,356	307,835	264,391	264,167	214,967	191,461	189,347	227,795	306,494
Grapes	117,125	120,323	114,729	114,842	113,888	115,019	97,585	114,857	120,836	151,146
Bananas	197,484	205,422	216,847	209,521	187,573	202,449	197,241	162,664	187,568	1/ 180,260
Cherries	9,778	8,472	8,785	8,218	7,257	7,545	6,637	10,321	22,108	25,099
Lettuce	151,040	137,213	176,655	172,307	168,820	152,561	128,836	141,769	150,573	158,943
Tomatoes	112,905	119,644	87,640	79,803	79,954	72,816	67,707	59,188	66,778	75,409
Plums	20,709	22,036	27,421	20,925	19,368	27,003	20,697	24,588	36,191	44,598
Strawberries	13,345	16,814	12,896	12,623	12,095	13,558	10,832	9,873	10,645	14,050
Other	757,697	762,975	922,440	698,602	713,243	700,101	545,222	605,647	664,763	728,997
Total	2,148,800	2,370,110	2,573,210	2,169,150	2,336,498	2,105,825	1,858,031	1,995,280	2,235,551	2,487,989
<u>1,000 dollars</u>										
Value:										
Grapefruit	84,935	99,525	109,722	98,429	117,325	91,599	92,486	133,753	169,260	222,279
Oranges	136,335	167,227	195,555	183,618	220,831	203,436	229,187	224,365	218,247	192,139
Apples	109,638	131,390	172,843	151,804	137,721	119,717	101,647	107,561	107,049	148,340
Grapes	78,908	85,868	97,202	99,093	90,560	93,175	83,642	108,728	120,987	147,270
Bananas	63,479	71,505	75,896	72,988	72,148	70,640	73,273	72,078	83,413	1/ 79,357
Cherries	11,495	13,205	15,389	13,939	13,074	13,583	12,449	19,361	48,903	56,507
Lettuce	37,814	40,304	50,363	51,894	50,264	42,425	35,797	37,582	48,124	51,311
Tomatoes	40,310	43,524	50,356	47,075	48,234	42,928	38,739	37,879	42,643	48,373
Plums	11,898	16,775	20,190	17,698	14,627	18,166	17,032	20,766	27,584	39,907
Strawberries	11,918	19,533	15,748	19,856	20,160	21,130	18,674	21,962	24,996	36,899
Other	309,419	342,907	449,996	365,083	362,443	367,409	309,541	340,713	405,667	456,754
Total	896,149	1,031,763	1,253,260	1,121,477	1,147,387	1,084,208	1,012,467	1,124,748	1,296,873	1,479,136

1/ Largely transshipments.

Source: (28).

Table 13--Quantity and value of selected fruit and vegetable exports, France, 1979-88

Commodity	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<u>Metric tons</u>										
Quantity:										
Apples	794,389	680,151	693,444	624,997	563,173	615,680	652,942	620,281	762,366	706,606
Potatoes	434,080	759,342	721,182	496,418	532,753	404,054	521,438	533,663	661,643	784,522
Cauliflower	134,922	165,866	176,296	197,164	173,442	214,286	148,029	208,514	116,577	221,665
Asparagus	10,059	10,242	12,917	13,417	15,406	15,349	15,845	13,453	16,348	16,177
Lettuce	38,421	52,297	53,721	38,834	41,025	38,139	24,457	31,023	40,941	41,421
Pears	67,217	76,941	91,617	71,155	79,487	85,094	92,432	58,123	116,763	70,383
Strawberries	5,934	8,994	10,260	9,392	9,514	13,725	12,177	13,896	18,880	14,915
Peaches and nectarines	21,056	34,425	29,518	20,922	24,176	30,062	31,917	32,364	34,227	30,700
Cantaloupes	15,923	13,591	16,844	20,125	19,638	16,188	19,815	23,393	21,987	23,369
Mushrooms	2,033	2,012	2,921	3,372	5,006	7,040	7,432	10,115	9,692	8,261
Other	240,606	253,314	274,011	284,325	246,795	300,583	290,875	308,384	348,766	302,607
Total	1,764,640	2,057,175	2,082,731	1,780,121	1,710,415	1,740,200	1,817,359	1,853,209	2,148,190	2,220,626
<u>1,000 dollars</u>										
Value:										
Apples	290,284	310,951	309,077	285,531	229,478	207,395	230,687	309,738	387,617	371,860
Potatoes	75,627	104,855	91,224	83,026	75,400	73,191	44,106	58,094	108,024	119,423
Cauliflower	71,321	71,800	72,765	72,581	53,367	64,004	59,471	77,226	69,537	107,529
Asparagus	40,988	45,672	39,797	42,978	47,244	41,223	43,895	48,041	66,269	69,478
Lettuce	46,388	51,669	60,116	29,196	34,851	35,359	25,161	33,559	62,171	58,598
Pears	30,449	42,456	36,769	29,470	28,157	27,236	31,284	38,325	64,169	49,892
Strawberries	12,402	21,484	22,363	20,347	17,519	25,761	20,936	28,635	45,694	42,000
Peaches and nectarines	19,025	33,852	20,493	18,470	16,713	16,971	20,571	31,194	35,874	40,479
Cantaloupes	16,188	17,503	16,006	16,809	17,128	13,240	14,256	21,329	27,061	30,519
Mushrooms	5,375	7,812	8,066	8,880	11,126	14,217	9,761	21,596	28,671	28,568
Other	172,111	201,376	191,851	174,863	154,587	163,392	161,385	211,634	288,259	267,567
Total	780,158	909,430	868,527	782,151	685,570	681,989	661,513	879,371	1,183,346	1,185,913

Source: (28).

agricultural export revenue in Mexico, and the primary source of export revenue in Chile (62).

Although the product mix of exports from both countries is highly diversified and export volume of many commodities has been expanding, only a few commodities are the major contributors to total export value. In Mexico, tomato exports alone accounted for 40 percent of the export value of all fresh fruits and vegetables in 1988 (table 14). Similarly, Chilean grape exports contributed 55 percent to the total value of fresh fruit and vegetable exports from Chile in 1988 (table 15).

Canada. Canada is not a major world exporter of fresh fruit and vegetables, but can be a significant presence in U.S. markets for some commodities during certain times of the year. Canada can grow a variety of noncitrus fruits and vegetables, although production is constrained by geographic and climatic conditions which lead to relatively short production seasons. Production seasons in Canada frequently coincide with those in the United States.

The United States and Canada are natural trading partners for fresh fruit and vegetables due to their geographic proximity which minimizes potential losses from transporting highly perishable commodities, and easy access to markets on both sides of the border by truck and rail transportation systems. In 1988, U.S. fresh fruit and vegetable imports from Canada were valued at about \$166 million. Major commodities exported to the United States include apples, potatoes, carrots, onions, cabbage, raspberries, cranberries, and blueberries. Other important export markets for Canadian fresh produce include the Pacific Rim countries.

Major Importers

In 1988, the top 15 fresh fruit and vegetable importing countries accounted for 77 percent of the total value of world fresh fruit and vegetable imports. Six countries, Germany, France, the United Kingdom, the United States, Japan, and Canada, alone accounted for 54 percent (table 16). The major fresh fruit and vegetable imports into these countries generally consist primarily of tropical and semi-tropical commodities that have limited to no domestic production possibilities. In addition, each of the major importing countries also imports some temperate fruit and vegetables, which may enter markets during periods of off-season domestic production, or may compete directly to some degree with domestic production. However, the degree to which these fresh fruit and vegetable imports actually compete with domestic production is difficult to evaluate in the absence of monthly, or even weekly, domestic supply and import data.

Germany. Germany is the largest importer of fresh fruit and vegetables in the world due to the country's relatively high standard of living and consumption levels, and less than optimal climatic conditions which make for short domestic production seasons for many temperate fruits and vegetables. In many years since 1970, fruit and vegetable imports have accounted for the largest portion of the total value of Germany's agricultural commodity imports, 20 percent in 1987 (62).

Table 14--Quantity and value of selected fruit and vegetable exports, Mexico, 1979-88

Commodity	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<u>Metric tons</u>										
Quantity:										
Tomatoes	401,396	373,097	464,675	578,531	335,764	451,261	481,298	538,317	516,444	466,544
Watermelons	92,743	128,979	55,660	135,299	31,985	243,537	131,287	91,091	134,000	299,535
Cucumbers	147,097	272,387	265,812	216,212	204,038	200,000	275,218	208,013	210,000	200,000
Cantaloupes	114,533	136,637	121,167	143,022	11,247	N/A	118,918	152,733	161,561	156,000
Pumpkins	47,387	47,674	38,026	57,128	39,560	40,500	110,950	82,500	75,000	70,000
Onions, green and shallots	58,371	57,245	48,918	64,474	62,732	90,459	93,942	94,273	14,100	167,000
Grapes	92,743	128,979	55,660	20,223	13,390	12,559	25,434	29,106	29,000	35,500
Strawberries	16,906	6,531	2,254	1,103	1,726	3,087	3,733	4,806	14,508	20,012
Asparagus	4,011	3,309	4,852	8,497	6,584	6,000	8,705	10,809	11,000	16,000
Eggplants	17,160	23,606	19,624	12,363	15,902	15,000	11,850	21,268	21,268	21,268
Other	130,853	81,033	122,380	148,664	143,169	200,650	214,101	284,953	432,764	288,983
Total	1,123,200	1,259,477	1,199,028	1,385,516	866,097	1,263,053	1,475,436	1,517,869	1,619,645	1,740,842
<u>1,000 dollars</u>										
Value:										
Tomatoes	206,975	185,437	242,438	153,850	107,490	220,680	198,150	407,713	200,039	243,168
Watermelons	5,500	18,118	13,144	9,588	7,039	47,246	7,122	18,954	40,000	72,846
Cucumbers	9,670	74,872	71,140	51,326	54,735	30,000	33,838	61,246	53,000	42,000
Cantaloupes	10,800	60,601	48,639	29,595	7,181		24,660	45,010	48,390	40,000
Pumpkins	1,600	21,857	28,131	21,884	1,944	1,800	14,054	30,363	40,000	36,000
Onions, green and shallots	5,593	7,063	6,500	7,700	5,000	11,500	11,500	15,560	23,400	31,000
Grapes	1,294	1,169	1,084	4,316	4,672	5,880	11,879	7,794	16,000	23,700
Strawberries	10,586	3,941	1,772	1,411	1,939	3,620	4,545	4,537	15,195	22,159
Asparagus	1,273	1,423	1,980	3,551	4,171	2,500	5,460	6,475	6,700	16,000
Eggplants	1,500	9,614	12,851	5,611	7,631	2,700	4,331	12,552	12,552	12,552
Other	37,755	40,610	42,237	45,447	31,024	46,603	20,185	60,425	69,682	69,916
Total	292,546	424,705	469,916	334,279	232,826	372,529	335,724	670,629	524,958	609,341

Source: (28).

Table 15--Quantity and value of selected fruit and vegetable exports, Chile, 1979-88

Commodity	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<u>Metric tons</u>										
Quantity:										
Grapes	50,646	49,603	93,674	125,718	172,879	178,421	261,924	298,563	271,536	349,941
Apples	124,307	178,478	198,203	198,476	195,290	226,945	224,919	350,171	331,188	347,336
Peaches and nectarines	6,054	9,756	9,194	12,816	18,491	23,359	38,125	39,154	44,391	52,893
Pears	20,454	25,612	25,612	27,982	22,100	27,951	33,207	45,022	44,724	62,873
Plums	2,739	3,383	3,077	3,538	6,371	8,804	18,675	19,181	24,663	26,130
Onions, dry	18,333	27,409	15,433	27,855	3,074	25,266	16,577	15,606	29,001	43,099
Avocados	NA	NA	NA	NA	25	14	1,326	3,536	79	4,638
Asparagus	NA	2,693	464	232	840	1,005	1,322	1,538	2,069	2,744
Cherries	404	881	749	778	790	1,009	1,326	1,191	2,055	2,473
Apricots	NA	NA	NA	25	82	404	1,193	1,141	810	1,530
Other	10,760	12,715	10,109	9,078	13,418	13,620	17,948	19,114	14,453	11,656
Total	233,697	310,530	356,515	406,498	433,360	506,798	616,542	794,217	764,969	905,313
<u>1,000 dollars</u>										
Value:										
Grapes	44,700	51,800	69,756	95,238	116,636	169,064	224,847	249,033	275,700	315,100
Apples	43,100	65,969	76,100	77,868	63,115	74,151	75,716	127,441	141,900	129,100
Peaches and nectarines	3,794	7,041	7,900	9,483	11,519	19,296	23,117	31,595	33,200	39,700
Pears	7,900	10,569	13,716	12,008	9,200	11,380	11,418	25,884	24,400	28,900
Plums	2,108	2,879	3,200	3,399	5,395	9,780	12,770	16,397	20,100	23,300
Onions, dry	3,200	4,600	3,100	6,572	632	6,587	3,079	2,451	7,000	9,500
Avocados	NA	NA	NA	NA	12	12	876	1,861	100	6,900
Asparagus	NA	45	25	165	738	2,282	1,419	2,663	4,500	5,200
Cherries	789	1,700	1,800	1,364	1,195	2,009	1,733	2,519	4,400	3,400
Apricots	NA	NA	NA	28	82	794	1,001	937	700	1,400
Other	5,300	6,378	4,416	4,691	5,196	4,676	7,765	11,462	10,500	8,970
Total	110,891	150,981	180,013	210,816	213,720	300,031	363,741	472,243	522,500	571,470

NA=Not available.

Source: (28).

Table 16--Quantity and value of fruit and vegetables: World imports, by selected countries, 1979-88

Country	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Quantity:										
	Metric tons									
Germany	5,927,287	6,137,798	6,052,468	5,679,836	6,018,322	6,029,573	5,847,762	6,165,608	6,498,671	6,414,218
France	2,810,822	2,712,096	2,802,737	3,016,646	3,159,116	3,273,004	3,238,847	3,534,375	3,584,615	3,695,315
United Kingdom	2,392,077	2,588,340	2,775,429	2,953,344	2,758,975	2,841,460	2,865,530	3,172,204	3,367,657	3,404,674
United States	3,801,054	3,756,466	3,828,564	4,181,222	4,120,293	4,697,053	5,158,470	5,286,488	5,569,846	5,483,432
Japan	1,306,600	1,239,226	1,416,433	1,310,170	1,151,356	1,349,292	1,244,219	1,425,375	1,494,559	1,573,445
Canada	1,892,136	1,875,931	2,039,668	1,973,431	2,019,508	2,142,713	2,105,326	2,263,208	2,383,482	2,076,730
Netherlands	1,340,120	1,346,418	1,322,995	1,358,883	1,426,999	1,633,451	2,197,559	2,324,800	2,417,957	2,459,872
Italy	1,066,806	929,763	857,205	1,045,636	1,113,969	1,006,913	1,445,902	1,261,165	1,611,579	1,792,566
Belgium and Luxembourg	1,015,813	1,204,933	1,105,606	1,024,507	1,051,350	1,135,679	1,479,092	1,808,519	1,703,754	1,771,936
Switzerland	443,304	478,466	443,830	466,888	476,118	489,902	450,431	481,037	504,709	527,566
Hong Kong	473,495	496,889	523,592	535,620	532,220	493,471	510,638	545,551	556,511	673,022
Sweden	461,666	483,712	482,894	468,765	463,702	513,323	490,134	527,157	700,064	664,557
Austria	557,661	542,488	553,344	543,039	594,402	600,627	599,639	633,303	673,981	632,498
Saudi Arabia	589,452	774,358	921,879	1,068,451	1,233,485	1,197,759	818,127	579,000	617,827	1,173,373
Finland	240,945	263,414	243,656	270,139	244,128	241,346	247,392	241,424	362,712	340,762
Other	10,804,457	11,020,689	11,164,891	11,453,644	10,993,847	10,860,152	10,795,943	11,074,603	11,843,407	12,822,845
Total world	32,800,476	33,290,126	33,809,826	34,464,207	34,289,853	35,459,192	36,829,081	38,797,382	40,980,236	42,022,599
Value:										
	1,000 dollars									
Germany	2,877,125	3,206,497	2,834,880	2,579,022	2,519,219	2,541,146	2,397,438	3,213,381	4,124,375	4,144,138
France	1,486,740	1,608,830	1,515,338	1,494,442	1,517,125	1,445,513	1,498,906	2,017,391	2,413,002	2,512,649
United Kingdom	1,306,537	1,655,159	1,539,361	1,504,713	1,363,871	1,330,966	1,382,669	1,776,315	2,130,571	2,386,833
United States	902,395	933,366	1,208,628	1,287,644	1,367,681	1,522,207	1,754,159	1,920,299	1,948,122	1,973,839
Japan	535,200	510,892	689,959	605,750	576,582	672,167	693,350	865,815	973,555	1,334,835
Canada	680,231	714,851	849,103	890,997	909,626	979,639	975,395	1,062,655	1,176,621	1,323,207
Netherlands	602,669	666,015	591,463	579,706	551,600	557,251	631,363	829,951	998,181	1,073,841
Italy	365,021	365,519	326,499	347,611	351,293	346,617	429,510	489,780	716,972	859,244
Belgium and Luxembourg	455,465	530,083	448,900	424,005	384,229	399,450	435,602	590,228	716,851	750,177
Switzerland	361,178	415,672	353,410	362,945	351,400	338,751	328,057	453,522	569,959	616,190
Hong Kong	225,324	258,869	295,985	311,729	292,011	284,492	291,004	317,980	354,599	440,002
Sweden	301,618	350,288	320,169	296,805	270,827	270,990	268,779	354,336	490,111	496,616
Austria	262,626	288,201	347,726	240,809	230,026	225,013	227,197	294,678	384,713	393,768
Saudi Arabia	190,791	278,966	341,711	371,231	444,743	396,698	251,426	187,868	212,220	345,700
Finland	134,297	173,188	162,713	163,339	142,814	135,909	145,413	173,994	264,556	259,855
Other	4,339,037	4,900,063	4,900,842	4,846,026	4,551,054	4,345,782	4,227,794	4,873,789	5,539,265	5,936,666
Total world	13,911,598	15,506,947	15,258,383	14,922,861	14,443,680	14,479,489	14,754,243	18,093,126	21,307,474	22,911,619

Source: (28).

Germany imports a variety of fresh fruit and vegetables. In 1988, 11 commodities accounted for almost 70 percent of the total import value of fresh fruit and vegetables, while the top 5, bananas, tomatoes, apples, cucumbers, and lettuce, alone accounted for 43 percent (table 17). As a member of the EC, Germany is a large market for fresh fruit and vegetable exports from other member countries.

France. A major exporter of fresh fruit and vegetables, France is also a major importer. However, many of France's major fresh fruit and vegetable imports are of tropical and semi-tropical fruits, such as bananas, oranges, tangerines, mandarins, clementines, satsumas, and grapefruit, for which there is limited to no domestic production. Imports of these commodities accounted for 37 percent of total fresh fruit and vegetable import value in 1988 (table 18). Other major imports include tomatoes, grapes, strawberries, avocados, pears, and apples. As an EC member, France is a large market for exports from other EC countries and countries with which the EC maintains preferential agreements, but is also an important market for U.S. avocados and grapefruit.

United Kingdom. The United Kingdom is a major importer of a variety of agricultural commodities including fresh fruit and vegetables. The bulk of fresh fruit and vegetables imported are tropical and semi-tropical commodities for which there is no domestic production, and commodities for which there is limited seasonal production.

In 1988, 23 percent of the import value of all fruit and vegetables in the United Kingdom was accounted for by bananas, oranges, tangerines, mandarins, clementines, and satsumas (table 19). Other major fresh fruit and vegetable imports are tomatoes, grapes, potatoes, peaches, nectarines, lettuce, and pears. Because of the country's limited production possibilities stemming from climatic conditions and short production seasons for many fruits and vegetables, the United Kingdom is an attractive market for exports from other EC member countries and countries with which the EC maintains preferential agreements.

United States. Although a large producer and a major exporter of fresh fruit and vegetables, the United States is a net importer of these commodities. Major fresh fruit and vegetable imports consist of bananas and various other fresh fruits and vegetables, such as grapes and tomatoes, which are imported primarily during the off-season (table 20).

The United States is the world's largest banana importer, accounting for 41 percent of world banana imports in 1987. Bananas alone accounted for 39 percent of the total import value of all fresh fruit and vegetables in the United States, both in 1987 and 1988 (table 20). There is essentially no commercial U.S. banana production other than a small amount grown in Hawaii, primarily for local consumption, and in Puerto Rico.

Limited production during the winter months and year-round consumer demand provide a window of opportunity for a variety of fresh fruit and vegetable imports, particularly for fresh vegetables. The primary fresh vegetable imports, tomatoes, onions, peppers, cantaloupes, cucumbers, and pumpkins, accounted for 23 percent of total U.S. fresh fruit and vegetable import value in 1988. Mexico is a large supplier of fresh tomatoes, peppers, cantaloupes, and cucumbers to U.S. markets during the winter months when domestic commercial production is limited to Florida and California.

Table 17--Quantity and value of selected fruit and vegetable imports, Germany, 1979-88

Commodity	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Quantity:										
Bananas	603,325	533,578	522,881	505,996	459,474	549,058	589,073	660,636	698,577	767,236
Tomatoes	364,949	359,908	350,525	357,390	359,985	374,846	378,953	389,634	414,554	410,451
Apples	544,103	572,969	689,316	537,936	679,104	708,994	637,433	596,985	771,198	139,848
Cucumbers	333,207	315,719	315,230	305,466	305,652	321,388	333,359	356,088	346,439	347,883
Lettuce	159,262	171,868	151,246	165,901	163,375	170,933	167,339	197,334	208,883	225,900
Oranges	560,767	537,699	457,708	526,822	487,436	517,387	439,727	547,940	574,764	554,423
Grapes	291,712	262,678	289,307	243,887	296,818	249,953	307,215	312,681	311,290	285,385
Strawberries	86,909	81,370	58,800	63,700	67,275	78,595	80,345	76,090	106,709	100,330
Peaches and nectarines	226,367	224,636	226,334	223,083	244,731	239,601	227,343	236,814	270,363	227,453
Peppers, green and chile	103,381	107,618	104,455	108,164	115,494	121,842	143,274	140,876	148,412	167,708
Other	2,653,305	2,969,755	2,886,666	2,641,491	2,838,978	2,696,976	2,543,701	2,650,530	2,647,482	3,187,601
Total	5,927,287	6,137,798	6,052,468	5,679,836	6,018,322	6,029,573	5,847,762	6,165,608	6,498,671	6,414,218
Value:										
Bananas	227,927	267,706	255,265	223,682	218,912	241,000	261,962	344,353	436,331	453,013
Tomatoes	305,741	358,818	314,607	295,170	272,393	245,591	222,421	330,074	413,602	441,387
Apples	265,892	294,092	290,759	285,646	208,074	235,791	221,854	287,259	396,344	364,823
Cucumbers	195,838	213,796	187,170	168,869	156,113	179,302	175,077	233,639	296,509	274,436
Lettuce	166,879	147,713	159,495	121,270	124,897	130,511	126,244	158,450	215,960	244,630
Oranges	208,875	215,188	172,682	179,370	166,130	148,902	146,970	208,757	238,880	243,254
Grapes	177,642	170,698	170,144	134,344	159,692	129,762	150,785	191,655	221,646	225,866
Strawberries	151,119	154,008	94,844	113,213	102,639	108,628	110,090	130,127	229,991	215,839
Peaches and nectarines	145,638	168,558	156,020	122,014	155,709	148,148	115,603	161,144	229,099	202,444
Peppers, green and chile	72,298	84,332	82,724	79,849	77,342	79,302	81,668	107,448	144,916	175,557
Other	959,276	1,131,588	951,170	855,595	877,318	894,209	784,764	1,060,475	1,301,097	1,302,889
Total	2,877,125	3,206,497	2,834,880	2,579,022	2,519,219	2,541,146	2,397,438	3,213,381	4,124,375	4,144,138

Source: (28).

Table 18--Quantity and value of selected fruit and vegetable imports, France, 1979-88

Commodity	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<u>Metric tons</u>										
Quantity:										
Bananas	440,351	445,743	462,232	462,875	440,899	442,906	425,637	453,561	441,844	454,952
Oranges	572,415	584,397	530,155	572,240	559,768	614,991	515,365	649,284	630,078	682,197
Tomatoes	190,979	182,914	202,442	209,296	218,981	238,790	253,059	283,921	284,396	298,422
Tangerines 1/	241,461	243,537	246,718	277,288	269,745	297,947	284,804	280,909	309,964	281,973
Grapes	88,425	91,105	105,013	99,220	140,718	104,072	143,222	136,948	139,480	160,192
Strawberries	11,931	11,650	11,424	12,572	16,116	19,012	24,154	38,518	47,611	52,083
Grapefruit	107,449	114,309	119,810	120,969	128,541	121,531	109,727	136,893	150,571	160,192
Avocados	28,930	24,030	30,199	40,686	50,804	51,974	59,432	66,721	75,710	51,607
Pears	46,798	44,201	52,751	48,434	66,052	59,379	59,384	60,008	65,098	81,360
Apples	71,520	97,342	97,252	92,619	106,213	106,505	91,017	93,459	77,877	89,785
Other	1,010,563	872,868	944,741	1,080,447	1,161,279	1,215,897	1,273,046	1,334,153	1,361,986	1,382,552
Total	2,810,822	2,712,096	2,802,737	3,016,646	3,159,116	3,273,004	3,238,847	3,534,375	3,584,615	3,695,315
<u>1,000 dollars</u>										
Value:										
Bananas	230,004	241,233	245,121	236,598	211,876	203,315	203,582	287,010	327,630	338,439
Oranges	225,056	248,157	210,154	197,190	201,580	178,680	192,912	244,855	265,754	299,751
Tomatoes	151,409	168,935	161,504	148,461	156,527	157,072	155,733	227,982	282,818	288,687
Tangerines 1/	136,073	159,518	139,146	133,312	128,683	119,374	114,710	155,992	186,399	180,478
Grapes	63,052	70,090	74,250	64,748	83,620	59,189	76,130	100,899	114,965	149,007
Strawberries	24,642	26,323	22,004	25,850	30,694	29,371	32,234	71,866	98,087	111,917
Grapefruit	52,521	60,232	60,583	59,414	63,333	55,953	61,528	82,023	95,491	100,445
Avocados	46,105	46,126	48,011	57,455	63,828	59,333	58,605	83,292	96,168	92,349
Pears	30,358	30,298	33,004	36,219	37,395	35,230	34,181	47,309	54,813	64,736
Apples	35,371	59,764	49,203	60,545	46,592	52,760	44,882	60,671	55,869	64,400
Other	492,149	498,154	472,358	474,650	492,997	495,236	524,409	655,492	835,008	822,440
Total	1,486,740	1,608,830	1,515,338	1,494,442	1,517,125	1,445,513	1,498,906	2,017,591	2,413,002	2,512,649

1/ Includes mandarins, clementines, and satsumas.
Source: (28).

Table 19--Quantity and value of selected fruit and vegetable imports, United Kingdom, 1979-88

Commodity	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<u>Metric tons</u>										
Quantity:										
Bananas	304,302	322,481	328,045	327,876	307,169	309,327	323,561	342,993	359,415	388,000
Apples	372,233	374,170	423,421	399,452	405,553	400,967	428,561	442,114	442,941	498,473
Tomatoes	152,428	177,832	207,009	205,415	217,628	235,896	253,525	256,629	256,602	266,115
Oranges	334,818	375,193	344,148	315,006	305,218	316,471	283,790	344,436	333,616	400,238
Grapes	69,374	75,101	79,698	79,201	85,704	86,217	106,382	101,071	107,797	121,674
Potatoes	372,321	403,347	444,530	606,240	403,252	384,609	308,882	466,851	589,927	459,832
Peaches and nectarines	44,214	47,520	60,057	67,333	85,417	82,399	85,045	79,322	94,990	83,847
Lettuce	9,003	12,013	14,729	19,756	20,619	35,794	37,136	48,232	59,305	67,396
Tangerines 1/	77,603	92,260	96,229	110,448	126,113	134,823	121,912	131,150	151,078	134,595
Pears	44,949	59,704	77,465	63,865	77,502	65,995	69,058	64,111	76,984	91,968
Other	609,032	648,719	700,098	758,752	724,800	788,962	847,678	895,295	895,002	892,536
Total	2,390,277	2,588,340	2,775,429	2,953,344	2,758,975	2,841,460	2,865,530	3,172,204	3,367,657	3,404,674
<u>1,000 dollars</u>										
Value:										
Bananas	139,625	174,636	171,841	168,655	167,384	162,247	187,658	238,884	277,043	313,244
Apples	197,401	235,178	222,490	230,393	193,250	173,040	192,964	238,858	274,840	308,213
Tomatoes	159,057	236,889	196,170	157,303	162,572	154,286	150,002	194,779	236,450	279,153
Oranges	140,583	165,484	136,608	117,433	113,662	99,756	113,181	133,428	150,755	179,019
Grapes	68,229	92,374	87,362	81,978	79,424	74,223	84,000	105,272	123,778	160,482
Potatoes	114,586	119,169	112,947	159,143	81,572	100,904	60,785	93,050	128,184	103,587
Peaches and nectarines	51,276	65,865	63,300	68,699	72,090	63,637	63,273	77,425	98,245	96,906
Lettuce	14,438	18,501	20,519	23,786	24,854	30,939	34,506	45,901	62,192	84,615
Tangerines 1/	33,392	44,694	42,988	44,337	42,190	44,389	40,620	62,679	73,688	75,974
Pears	29,487	44,139	47,106	40,928	43,905	34,478	33,944	44,737	57,258	72,975
Other	358,463	458,230	438,030	412,058	382,968	393,067	421,736	541,302	648,138	712,665
Total	1,306,537	1,655,159	1,539,361	1,504,713	1,363,871	1,330,966	1,382,669	1,776,315	2,130,571	2,386,833

1/ Includes mandarins, clementines, and satsumas.
Source: (28).

Table 20--Quantity and value of selected fruit and vegetable imports, United States, 1979-88

Commodity	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<u>Metric tons</u>										
Quantity:										
Bananas	2,409,550	2,422,841	2,533,877	2,665,433	2,458,468	2,664,522	3,066,920	3,049,161	2,940,480	2,873,861
Grapes	41,524	44,498	58,712	82,103	113,342	133,368	173,842	185,723	219,744	254,153
Tomatoes	323,556	295,633	238,536	268,813	333,978	373,796	386,017	445,020	417,086	370,492
Onions, dry	71,537	60,250	61,481	75,242	92,933	121,430	119,614	112,339	168,055	184,623
Peppers, chile and green	65,163	78,996	57,593	76,571	69,798	98,556	108,788	108,833	118,831	125,277
Cantaloupes	114,328	97,480	86,389	108,524	100,462	156,787	156,886	209,385	212,111	218,558
Apples	74,886	72,073	76,691	71,870	98,196	103,996	124,104	131,631	133,418	126,234
Cucumbers	145,447	143,966	170,605	139,306	177,682	176,802	173,755	194,204	216,664	195,651
Pumpkins	42,550	39,422	36,649	47,269	51,987	69,548	64,424	66,656	80,638	77,265
Plantains	NA	NA	NA	NA	NA	NA	NA	NA	102,189	108,635
Other	512,513	501,307	508,031	646,091	623,447	798,248	784,120	783,536	960,630	948,683
Total	3,801,054	3,756,466	3,828,564	4,181,222	4,120,293	4,697,053	5,158,470	5,286,488	5,569,846	5,483,432
<u>1,000 dollars</u>										
Value:										
Bananas	402,834	429,804	541,284	581,174	592,137	650,464	748,577	732,640	772,064	777,410
Grapes	26,908	39,386	53,023	84,570	104,202	111,996	169,448	162,741	211,173	254,385
Tomatoes	153,733	131,423	238,255	174,125	228,435	174,810	173,067	334,779	167,034	157,808
Onions, dry	20,377	21,271	22,015	25,024	25,306	39,473	40,739	41,424	63,970	81,212
Peppers, chile and green	37,220	54,040	55,912	60,015	49,285	85,402	99,049	79,807	66,040	72,036
Cantaloupes	27,575	27,289	27,848	34,515	33,363	43,226	42,927	56,991	69,391	63,476
Apples	27,206	36,233	34,903	36,483	44,262	55,198	62,641	70,373	62,234	55,037
Cucumbers	45,643	42,262	54,989	63,369	54,645	46,430	83,260	65,250	63,845	46,136
Pumpkins	17,783	13,903	22,085	24,353	26,975	27,317	26,212	24,069	41,561	37,133
Plantains	NA	NA	NA	NA	NA	NA	NA	NA	29,658	33,801
Other	143,116	137,755	158,314	204,016	209,071	287,891	308,239	352,225	401,152	395,405
Total	902,395	933,366	1,208,628	1,287,644	1,367,681	1,522,207	1,754,159	1,920,299	1,948,122	1,973,839

NA=Not available.
Source: (28).

The United States is a major world importer of table grapes and apples as well as a major exporter. U.S. grape imports, primarily from Chile, arrive during the off-season, while U.S. fresh apple imports, originating primarily in France, Chile, and Canada, are often of varieties currently not widely produced in the United States. Together, these two commodities accounted for 16 percent of the total value of U.S. fresh fruit and vegetable imports in 1988.

Japan. Japan produces a variety of fresh fruit and vegetables, but imports are increasing as the relaxation of import controls in recent years has helped stimulate consumer demand. The country is now the world's fifth largest importer of fresh fruit and vegetables in terms of import value.

Five commodities, bananas, grapefruit, oranges, lemons, and limes, account for well over half of the total value of Japanese fresh fruit and vegetable imports (table 21). Other major fresh fruit and vegetable imports include pineapples, asparagus, cherries, onions, cantaloupes, and mushrooms beginning in 1988. Japan is currently the largest market for U.S. grapefruit, cherry, lemon, lime, and orange exports, but is also an important market for Australian and Canadian apple and soft fruit exports.

Canada. Because of the country's proximity, Canada is an important market for U.S. fresh fruit and vegetable exports and Mexican fresh vegetable exports (primarily tomatoes). In addition, Canada is an important market for Chilean fresh fruit exports (primarily grapes). Canadian imports of many fresh noncitrus fruits and vegetables from the United States can compete directly with domestic production since growing seasons in both countries basically coincide. On the other hand, imports of Mexican vegetables and Chilean fruits essentially supplement Canadian markets during the off-season.

Canada's primary fresh fruit and vegetable import is grapes. In 1988, grape imports alone accounted for 12 percent of the Canadian import value of all fresh fruit and vegetables (table 22). Canada has a large domestic grape industry relative to other Canadian fruit and vegetable industries, and while grape imports from Chile do not directly compete with domestic production, imports from the United States do. Other major temperate fruit and vegetable commodity imports in Canada include lettuce, tomatoes, apples, cantaloupes, peaches and nectarines, and cabbages. Together, imports of these commodities accounted for 30 percent of total fresh fruit and vegetable import value in 1988. During the same year, 22 percent of the total value of fresh fruit and vegetable imports in Canada was attributable to banana, orange, tangerine, clementine, and satsuma imports, none of which can be domestically produced.

Wine

Wine is produced in many countries, but only a few are major exporters. Most world trade in wine is primarily between developed countries. Since wine is not a homogeneous product, several major exporters, such as France and the United States, are also major importers. Total world consumption of table wine is declining, while consumption of premium wines is becoming more prevalent in some countries.

Table 21--Quantity and value of selected fruit and vegetable imports, Japan, 1979-88

Commodity	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<u>Metric tons</u>										
Quantity:										
Bananas	790,090	726,086	707,904	757,917	575,895	682,355	680,035	764,564	774,840	760,409
Grapefruit	159,408	135,213	166,934	153,704	177,289	157,887	120,804	182,431	204,767	235,006
Oranges	54,075	71,403	75,471	82,421	89,190	89,121	111,635	117,300	123,425	115,347
Lemons and limes	99,994	100,691	112,528	104,601	119,555	122,638	113,924	125,825	128,184	118,906
Mushrooms	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,507
Pineapples	109,190	105,013	122,829	121,877	101,987	114,791	128,912	144,811	144,678	138,157
Asparagus	234	213	70	90	23	79	27	28	9	11,926
Cherries	2,111	2,629	2,650	1,751	1,568	1,921	1,726	4,087	10,178	8,525
Onions, dry	72,830	77,011	205,107	71,885	66,972	158,781	61,455	53,389	35,855	112,443
Cantaloupes	5,018	5,172	2,586	3,218	3,580	3,860	6,075	10,364	16,095	20,485
Other	13,650	15,795	20,354	12,706	15,297	17,859	19,626	22,576	56,528	49,734
Total	1,306,600	1,239,226	1,416,433	1,310,170	1,151,356	1,349,292	1,244,219	1,425,375	1,494,559	1,573,445
<u>1,000 dollars</u>										
Value:										
Bananas	194,734	192,350	223,859	241,509	231,320	256,343	304,673	380,973	370,458	433,818
Grapefruit	88,269	78,896	111,315	97,805	104,549	89,748	79,326	128,810	152,036	184,689
Oranges	43,947	42,663	64,345	75,287	62,702	82,540	92,055	98,717	121,668	127,597
Lemons and limes	105,319	83,242	86,141	84,043	84,251	91,408	101,651	101,147	118,623	123,949
Mushrooms	NA	NA	NA	NA	NA	NA	NA	NA	NA	93,070
Pineapples	37,696	40,531	47,228	41,713	38,708	36,935	44,882	65,159	72,700	72,952
Asparagus	257	256	100	48	19	86	20	55	67	56,138
Cherries	6,076	7,534	8,654	6,465	5,379	6,564	7,272	14,985	41,429	48,574
Onions, dry	23,967	22,836	95,791	27,617	15,855	69,259	19,560	13,955	12,273	45,730
Cantaloupes	4,526	4,947	3,988	3,882	3,582	3,880	5,474	9,950	16,666	25,388
Other	30,409	37,637	48,538	27,381	30,217	35,404	38,437	52,064	67,635	122,930
Total	535,200	510,892	689,959	605,750	576,582	672,167	693,350	865,815	973,555	1,334,835

NA=Not available.

Source: (28).

Table 22--Quantity and value of selected fruit and vegetable imports, Canada, 1979-88

Commodity	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Quantity:										
Grapes	144,536	135,884	124,912	145,220	155,266	157,914	157,799	158,857	156,097	158,369
Bananas	249,157	245,804	260,254	269,396	249,965	277,647	284,987	300,639	324,387	229,730
Lettuce	199,075	197,776	209,550	195,653	204,467	211,966	210,959	233,909	230,077	179,177
Oranges	249,119	294,900	301,963	275,078	294,714	272,776	259,001	286,739	284,648	195,447
Tomatoes	126,921	136,498	131,549	122,558	142,847	133,714	138,429	147,081	144,225	123,658
Apples	96,082	78,573	108,719	107,678	85,502	98,844	99,492	107,188	135,231	110,865
Tangerines 1/	NA	NA	NA	NA	NA	NA	NA	NA	NA	55,882
Cantaloupes	94,182	104,813	114,316	127,656	130,939	146,239	146,021	162,244	155,307	55,161
Peaches and nectarines	41,620	41,157	39,125	39,426	41,587	49,417	44,028	45,272	46,373	43,145
Cabbages	73,575	63,482	75,694	74,020	67,586	84,617	81,446	88,311	95,586	80,230
Other	617,869	577,044	673,586	616,746	646,635	709,579	683,164	732,968	811,551	845,066
Total	1,892,136	1,875,931	2,039,668	1,973,431	2,019,508	2,142,713	2,105,326	2,263,208	2,383,482	2,076,730
Value:										
1,000 dollars										
Grapes	87,593	92,375	99,427	114,017	122,635	126,890	122,941	131,038	138,417	163,518
Bananas	77,353	84,182	94,274	97,048	98,002	95,786	99,089	109,588	110,374	120,466
Lettuce	52,148	48,596	56,547	67,469	67,821	58,203	62,775	77,653	92,091	107,754
Oranges	88,035	86,016	94,090	114,596	98,196	118,703	113,057	125,479	139,232	101,516
Tomatoes	61,708	61,125	76,193	68,405	78,322	76,817	78,642	83,733	80,447	89,684
Apples	36,259	39,767	46,626	55,527	43,015	50,668	57,157	63,254	75,671	66,144
Tangerines 1/	NA	NA	NA	NA	NA	NA	NA	NA	NA	59,373
Cantaloupes	22,802	29,321	31,383	33,552	37,215	41,124	38,405	43,451	46,452	56,484
Peaches and nectarines	20,979	23,219	28,414	28,578	30,133	32,226	31,925	35,749	34,272	45,117
Cabbages	22,251	20,622	25,442	30,738	27,635	36,404	31,281	32,605	36,353	41,281
Other	211,103	229,628	296,707	281,067	306,652	342,818	340,123	360,105	423,312	471,870
Total	680,231	714,851	849,103	890,997	909,626	979,639	975,395	1,062,655	1,176,621	1,323,207

NA=Not available.

1/ Includes mandarins, clementines, and satsumas.

Source: (28).

Consumption Trends

The OECD provides a source of per capita wine consumption data for member countries (49). However, the data do not show the shift in consumer preference from table wine toward premium label wines that has occurred in many countries during recent years. The data do indicate that total wine consumption in the OECD countries decreased 8 percent between 1976 and 1985 (table 23). This decrease was primarily the result of large consumption declines in several of the major wine producing regions including France, Italy, and Portugal. Wine consumption in other OECD countries increased during the 10-year period, but most of the increase was in those countries with relatively low consumption levels. Per capita consumption in the United Kingdom, for example, rose 89 percent between 1976 and 1985, but was only 9.2 liters per person in 1985. A similar trend is evident in U.S. per capita wine consumption.

Major Exporters

The EC is the single largest exporting region for wine. In 1988, 72 percent of all world wine exports originated in France, Italy, Spain, and Portugal (table 24). Together, these countries accounted for 79 percent of the total value of world wine exports during that year.

Wine exports are important contributors to the total revenues received from exporting agricultural commodities for each of the major wine exporting countries in the EC. Wine exports were Portugal's single largest contributor to the total revenue received from exporting agricultural commodities in 1987, the second largest source of agricultural export revenue in Italy, and the third source for Spain and France (62).

Table 23--Per capita wine consumption in OECD countries, 1976-85

Country	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
<u>Liters</u>										
Australia	15.0	14.2	16.4	17.4	18.3	19.2	19.9	20.5	21.4	24.1
Austria	35.8	34.8	34.8	35.6	34.8	34.8	37.4	36.4	34.3	32.6
Belgium/Luxembourg	15.7	17.9	16.9	19.3	19.6	21.5	20.7	21.9	17.6	19.8
Denmark	11.5	12.0	12.7	12.6	14.1	16.6	16.7	18.1	19.9	19.4
Finland	8.5	8.7	8.2	8.2	8.2	8.8	8.7	8.4	8.8	8.6
France	102.2	98.1	94.3	96.2	92.4	88.9	86.1	83.2	80.5	80.6
Germany	23.7	24.4	24.3	25.6	24.7	24.9	26.5	25.7	25.5	23.3
Ireland	2.6	2.9	3.1	3.2	3.4	3.2	2.9	3.3	3.4	3.2
Italy	93.1	92.4	87.5	87.6	88.5	84.7	81.2	43.6	71.3	62.3
Netherlands	11.0	11.8	11.7	12.0	12.8	13.0	13.8	14.6	14.9	14.0
Norway	3.5	3.5	3.0	3.7	4.4	4.1	3.9	3.9	4.3	5.1
Portugal	97.8	87.8	65.0	62.7	79.9	91.1	81.7	76.1	73.9	73.7
Spain	61.3	59.0	59.3	59.6	60.3	60.8	60.1	59.6	59.8	59.8
Sweden	8.5	9.5	8.9	9.4	9.5	9.7	10.4	10.8	11.6	11.0
Switzerland	38.3	39.6	39.8	43.5	46.3	49.0	55.4	54.3	49.2	47.0
Turkey	0.5	0.7	0.5	0.8	0.7	0.7	0.8	0.3	0.5	0.5
United Kingdom	5.0	5.0	7.9	7.4	7.4	7.9	8.0	9.4	9.3	9.2
United States	6.6	6.9	7.4	7.5	8.0	8.3	8.4	8.5	8.9	9.2
Yugoslavia	26.8	26.6	25.3	26.1	26.8	26.3	28.3	28.2	25.8	16.8
Average	25.8	25.3	24.0	24.5	25.5	26.1	26.0	23.9	24.6	23.6

Sources: (49, 74).

In 1988, Bulgaria was the world's fourth largest wine exporting country. Bulgaria has maintained a fairly constant 5-percent share of the total volume of world wine exports since 1970, although exports from that country have followed a downward trend over the past 10 years. Next to tobacco and meat products, wine is an important source of agricultural export revenue for Bulgaria, but the proportion of its contribution to total agricultural export revenue has declined somewhat in recent years (62).

U.S. wine exports have increased dramatically over the past 10 years, and the United States has now gained recognition as the world's sixth largest wine exporting country. However, U.S. wine exports accounted for only 1 percent of the total volume and value of world exports in 1988.

Major Importers

The top five wine importing countries in 1988 were Germany, the United Kingdom, France, the United States, and the Netherlands. Together, these countries accounted for almost 60 percent of the total volume of world wine imports during that year; the United States alone accounted for 7 percent (table 25). The wine traded in world markets is primarily table wine. But, a large proportion of the recent increase in imports into the major importing countries has likely been of premium wines because of the relatively high degree of consumer purchasing power in each of these countries and shifting consumer preference toward quality product.

Table 24--Top 10 exporting countries for wine, 1979-88 1/

Country	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<u>Metric tons</u>										
Quantity:										
France	819,781	887,266	886,760	889,856	1,051,188	1,115,879	1,161,694	1,279,695	1,326,799	1,299,169
Italy	1,771,476	1,466,931	1,896,572	1,924,677	1,359,327	1,561,789	1,669,430	1,042,689	1,082,463	1,280,324
Spain	609,837	545,881	564,476	454,631	555,412	625,730	648,337	519,991	441,981	432,175
Bulgaria	270,887	271,005	272,361	286,770	303,208	297,917	290,568	205,443	194,104	200,916
Portugal	140,028	161,480	137,293	135,125	142,071	147,864	141,399	149,827	156,791	157,318
United States	19,584	29,308	39,457	34,222	28,647	23,362	22,582	27,221	43,174	61,613
Algeria	238,394	226,103	239,276	171,349	83,070	121,444	167,435	49,429	41,440	40,000
Australia	5,250	6,106	7,495	8,389	7,991	8,944	8,735	10,905	21,438	38,846
Argentina	11,997	10,728	14,327	15,000	16,135	30,054	20,488	22,119	16,984	15,000
Tunisia	22,541	22,844	38,156	33,796	21,857	9,633	43,316	30,824	24,419	12,163
Other	889,898	858,115	924,817	953,215	958,599	1,035,584	1,048,379	890,396	874,196	871,997
Total world	4,799,673	4,485,767	5,020,990	4,907,030	4,527,505	4,978,200	5,222,363	4,228,539	4,223,789	4,409,521
<u>1,000 dollars</u>										
Value:										
France	1,617,330	1,735,337	1,614,577	1,501,052	1,525,101	1,661,934	1,917,951	2,649,970	3,174,754	3,469,975
Italy	941,584	819,740	820,820	854,237	712,522	728,636	801,736	761,685	908,903	1,039,517
Spain	396,680	381,237	304,281	305,390	285,973	278,515	316,675	404,770	479,953	519,642
Bulgaria	176,100	181,300	156,500	167,000	173,000	161,000	159,000	184,000	194,000	221,000
Portugal	208,256	241,446	207,466	195,492	178,988	174,741	181,802	250,397	309,851	341,516
United States	19,548	29,817	41,797	38,363	32,251	26,494	26,681	35,745	60,518	84,540
Algeria	82,906	98,395	107,502	67,048	30,042	39,329	45,817	17,871	18,172	21,000
Australia	7,193	9,334	13,750	15,305	12,576	15,180	13,376	14,840	30,292	70,974
Argentina	9,301	9,519	9,321	8,281	6,169	7,347	5,894	6,570	8,818	9,300
Tunisia	8,422	7,692	7,864	6,943	4,379	3,169	6,564	5,564	7,457	6,555
Other	875,916	925,463	890,473	896,413	830,252	801,439	817,493	921,085	986,377	1,006,845
Total world	4,343,236	4,439,280	4,174,351	4,055,524	3,791,253	3,897,784	4,292,989	5,252,497	6,179,095	6,790,864

1/ Ranked according to quantity exported in 1988.

Source: (28).

Table 25--Top 10 importing countries for wine, 1979-88 1/

Country	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<u>Metric tons</u>										
Quantity:										
Germany, West	793,007	862,030	968,956	947,165	919,367	880,040	916,136	833,483	887,959	889,384
United Kingdom	410,266	351,692	409,662	405,034	445,290	509,610	537,620	558,427	605,406	614,377
France	848,602	667,092	777,707	752,694	538,151	578,313	685,876	403,759	416,406	553,131
United States	326,922	367,990	414,791	441,710	475,895	519,838	496,708	377,970	311,259	288,549
Netherlands	158,995	173,088	176,767	195,383	194,189	215,093	214,825	213,436	208,738	210,312
Belgium and Luxembourg	182,006	182,505	187,115	188,175	199,001	191,380	201,156	187,552	209,286	201,732
Germany, East	180,270	177,140	188,940	179,480	220,290	196,170	186,510	198,030	196,350	195,000
Switzerland	214,226	232,731	270,616	264,297	221,267	226,121	233,540	212,372	217,107	192,745
USSR	686,847	828,117	794,164	666,294	631,298	725,784	678,567	234,453	175,949	155,914
Canada	100,918	110,059	120,381	121,810	122,451	162,442	138,614	133,620	133,469	135,993
Other	689,612	639,590	693,376	741,299	704,134	729,502	890,279	908,214	847,309	881,389
Total world	4,591,671	4,592,034	5,002,475	4,903,341	4,671,333	4,934,293	5,179,831	4,261,316	4,209,238	4,318,526
<u>1,000 dollars</u>										
Value:										
Germany, West	640,513	729,699	667,695	629,458	600,652	533,541	581,302	782,439	990,552	1,122,130
United Kingdom	614,075	607,565	600,566	545,722	625,996	641,416	744,343	996,953	1,185,671	1,326,351
France	390,069	321,233	281,360	267,312	210,924	200,228	238,331	228,534	270,729	336,495
United States	611,613	677,622	734,319	756,019	826,188	931,680	981,024	988,766	950,221	934,881
Netherlands	233,529	263,779	223,377	224,546	207,932	210,914	224,026	311,054	367,543	387,106
Belgium and Luxembourg	305,796	324,500	262,405	240,020	235,781	214,316	229,170	306,302	414,083	440,392
Germany, East	133,620	140,000	131,100	123,500	143,000	117,700	121,000	129,000	145,000	155,000
Switzerland	243,867	275,606	279,169	254,523	200,391	199,303	221,643	309,638	389,368	426,595
USSR	574,395	648,356	587,121	618,272	671,203	687,876	624,160	417,247	329,371	312,607
Canada	118,747	135,095	134,410	145,832	125,294	166,334	147,632	181,439	206,346	205,259
Other	774,642	823,378	777,185	755,311	665,595	671,605	773,609	989,233	1,172,913	1,371,289
Total world	4,640,866	4,946,833	4,678,707	4,560,515	4,512,956	4,574,913	4,886,240	5,640,605	6,421,797	7,018,105

1/ Ranked according to quantity imported in 1988.

Source: (28).

Tropical Beverages

Coffee, tea, and cocoa are produced predominantly in developing countries for export to processors and manufacturers in developed countries. These commodities are often an important source of trade revenue for exporting countries.

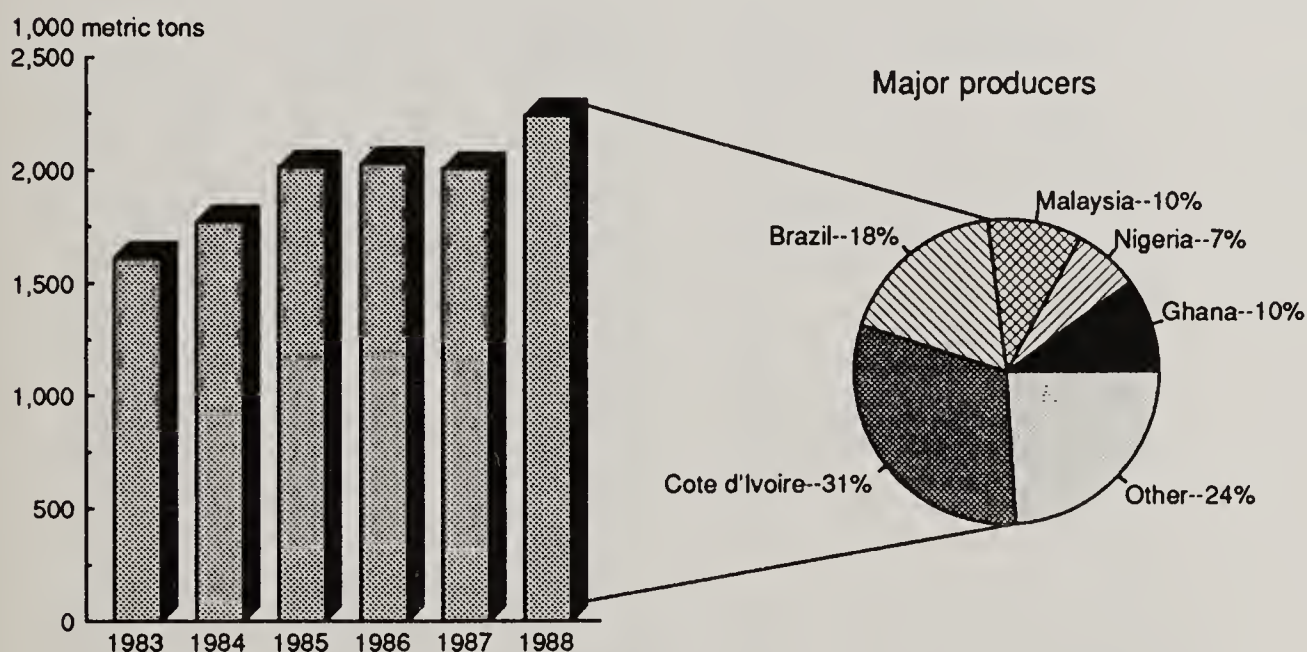
Cocoa

Cocoa bean production takes place in Africa, Latin America, and Asia, although a small amount is also produced in Oceania. A few developing countries export processed cocoa in the form of paste, cake, or powder, but the majority is exported to developed countries in the form of beans, which are processed for manufacturing chocolate and other cocoa products by the domestic food sector.

World cocoa bean production increased 40 percent between 1983 and 1988 (fig. 2). The expansion in total supplies is partially the result of new plantings encouraged by government policies in the Côte d'Ivoire (Ivory Coast), Malaysia, Brazil, and Indonesia (68). Côte d'Ivoire is the world's largest cocoa bean producer, with 31 percent of total world production in 1988 (27). The controlled marketing policies of Côte d'Ivoire, which can restrict supplies, have increased the demand for Malaysian cocoa beans even though they are of lesser quality (68). As a result, Malaysian cocoa bean production more than doubled from 74,000 metric tons in 1983 to 185,000 metric tons in 1988. Malaysia produced 10 percent of total world cocoa bean production in 1988, up from 5 percent in 1983.

Figure 2

World cocoa bean production and major producing countries



Source: (27).

Consumption Trends. OECD per capita consumption data show that cocoa consumption, although highly variable among the OECD member countries, has followed an upward trend since 1979 (table 26). Consumption of cocoa products is the highest in Switzerland and Austria, where large processing industries exist, but growth in cocoa consumption has been more pronounced in the Netherlands and Norway since 1985. Consumption has significantly declined in Australia and Canada.

Major Exporters. World cocoa bean exports increased 68 percent between 1979 and 1988, reflecting increasing demand around the world (table 27). Most of the rise was accounted for by the top five exporting countries, Côte d'Ivoire, Ghana, Malaysia, Brazil, and Cameroon, which together shipped 63 percent of world cocoa bean exports in 1988, and accounted for 66 percent of total world export value during that year. In 1987, cocoa bean exports were the single largest source of agricultural export revenues in Côte d'Ivoire, Ghana, Malaysia, and Cameroon (62).

Major Importers. In 1988, the top five cocoa bean importers were the Netherlands, the United States, Germany, USSR, and the United Kingdom (table 28). Together, these five countries accounted for 64 percent of total world imports in 1988, the same as in 1970. Other major importers in 1988 were Singapore, France, Spain, Japan, and Canada.

The relative importance of the major cocoa bean importers has shifted since 1970. This shift mirrors the development or expansion of chocolate and confection industries in those countries. With dramatically increasing consumer demand, the Netherlands has become the world's largest cocoa bean

Table 26--Per capita cocoa consumption in OECD countries, 1976-85

Country	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
<u>Kilograms</u>										
Australia	1.1	1.1	1.1	1.1	1.0	0.9	0.4	0.4	0.3	0.1
Austria	3.2	3.2	3.1	3.2	3.4	3.1	3.4	3.3	3.8	3.9
Belgium and Luxembourg	2.5	2.5	2.5	2.4	2.7	2.2	2.3	2.4	2.7	3.0
Canada	1.1	1.1	1.1	1.0	1.1	1.2	1.1	1.3	0.8	0.8
Denmark	1.1	0.6	0.6	0.8	0.8	1.2	0.9	0.8	0.9	1.1
Finland	0.8	0.6	0.6	0.6	0.6	0.6	0.8	0.8	0.8	0.8
France	1.9	1.8	1.8	1.9	2.0	2.0	2.1	1.7	1.6	1.7
Germany	2.0	2.1	2.1	2.2	2.2	2.2	2.2	2.4	2.5	2.3
Ireland	0.7	0.7	0.7	1.0	0.7	0.7	0.9	0.7	0.9	2.0
Italy	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	1.0	1.0
Netherlands	2.3	1.9	1.8	1.4	1.9	1.4	1.3	1.4	2.1	3.8
New Zealand	1.0	1.0	0.8	0.8	1.0	1.0	1.3	1.2	1.0	1.2
Norway	2.3	2.5	2.5	2.7	2.9	2.9	2.9	3.1	3.1	3.5
Portugal	0.4	0.3	0.2	0.2	0.3	0.4	0.3	0.4	0.4	0.4
Spain	0.6	0.5	0.7	0.9	0.9	1.0	0.9	1.1	1.0	1.0
Sweden	1.4	1.4	1.4	1.3	1.4	1.2	1.4	1.4	1.5	1.4
Switzerland	4.7	5.4	5.2	5.1	5.1	6.4	6.0	6.1	6.6	6.7
Turkey	N/A	N/A	N/A	N/A	N/A	0.1	0.1	0.1	0.1	0.1
United Kingdom	0.9	1.1	1.0	0.6	1.0	1.2	1.3	1.2	1.5	1.7
United States	1.4	1.2	1.2	1.2	1.2	1.3	1.4	1.5	1.6	1.7
Average	1.6	1.6	1.5	1.5	1.6	1.6	1.6	1.6	1.7	1.9

N/A = Not available.

Source: (49).

Table 27--Top 10 exporting countries for cocoa beans, 1979-88 1/

Country	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Quantity:										
					<u>Metric tons</u>					
Côte d'Ivoire	170,843	285,058	438,295	326,307	286,382	449,070	419,305	465,175	453,000	355,000
Malaysia	24,101	30,640	42,237	57,614	57,269	66,133	81,465	106,084	157,433	224,909
Ghana	196,357	194,679	192,529	241,531	153,397	148,875	171,797	195,774	198,388	160,000
Brazil	156,932	123,580	125,246	143,462	152,773	107,246	172,321	135,150	143,482	130,000
Cameroon	61,384	82,764	82,580	68,983	80,052	89,930	81,696	89,667	104,796	110,000
Singapore	3,684	4,449	14,050	18,346	15,020	27,943	28,321	34,716	48,333	81,938
Indonesia	3,645	4,680	6,814	11,395	15,885	24,299	30,167	33,173	37,231	57,361
Ecuador	14,170	14,001	27,156	37,493	8,322	46,132	68,899	38,285	43,961	52,860
Dominican Republic	25,640	23,418	27,491	38,782	34,199	32,280	31,359	35,867	38,914	45,000
Netherlands	15,829	19,187	29,888	36,570	37,123	50,940	59,638	63,879	58,386	28,080
Other	257,245	282,735	349,086	271,304	366,842	311,200	247,025	304,853	246,412	316,336
Total world	929,830	1,065,191	1,335,372	1,251,787	1,207,264	1,354,048	1,391,993	1,502,623	1,530,336	1,561,484
Value:										
					<u>1,000 dollars</u>					
Côte d'Ivoire	546,634	797,655	739,149	499,231	429,121	910,612	894,222	1,035,500	922,000	670,000
Malaysia	72,073	74,384	74,469	84,850	98,523	144,295	164,946	192,277	271,350	346,090
Ghana	672,050	655,921	398,764	385,650	242,000	346,956	358,274	460,851	475,109	336,000
Brazil	486,873	291,688	241,618	215,978	283,773	249,035	360,796	274,248	265,587	225,000
Cameroon	186,723	210,842	145,756	124,272	132,000	160,540	134,527	177,167	189,000	175,000
Singapore	11,327	10,627	28,551	37,015	25,011	63,186	58,675	63,179	80,745	118,888
Indonesia	9,939	10,098	11,340	15,212	26,350	50,282	59,225	57,008	60,403	75,042
Ecuador	40,264	31,294	43,839	55,864	11,899	96,768	131,834	73,080	79,888	77,636
Dominican Republic	73,047	51,024	44,599	52,843	55,021	70,064	58,352	58,873	66,333	63,000
Netherlands	54,750	61,022	64,812	69,097	65,350	109,833	141,152	173,624	161,219	59,119
Other	899,133	642,045	572,149	450,207	604,919	642,325	524,002	605,926	471,120	514,035
Total world	3,052,813	2,836,600	2,365,046	1,990,219	1,973,967	2,843,896	2,886,005	3,171,733	3,042,754	2,659,810

1/ Ranked according to quantity exported in 1988.

Source: (28).

Table 28--Top 10 importing countries for cocoa beans, 1979-88 1/

Country	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<u>Metric tons</u>										
Quantity:										
Netherlands	143,443	146,796	170,084	184,872	186,436	221,094	230,419	235,063	247,940	285,613
United States	167,877	150,865	248,890	197,333	217,119	193,942	270,328	204,748	262,607	236,740
Germany, West	148,091	165,848	171,796	196,412	172,558	195,328	220,064	211,305	213,827	222,315
USSR	126,260	126,844	121,139	115,459	162,279	149,984	154,868	163,394	147,955	138,535
United Kingdom	72,126	83,281	94,159	112,157	66,147	98,706	96,607	104,472	108,841	108,113
Singapore	8,635	14,429	24,124	37,615	41,705	43,648	52,547	54,859	75,184	103,751
France	56,583	56,913	57,633	60,212	57,766	52,357	46,540	43,665	44,284	47,241
Spain	35,890	35,274	40,096	32,187	38,496	37,862	38,973	38,407	36,228	42,468
Japan	23,064	22,755	31,656	36,370	34,891	33,899	35,540	38,326	37,168	40,972
Canada	10,670	11,401	14,860	16,030	15,989	24,477	21,562	19,669	19,937	22,057
Other	233,704	249,031	267,819	281,409	265,156	273,607	297,011	286,042	278,184	291,267
Total world	1,026,343	1,063,437	1,242,256	1,270,056	1,258,542	1,324,904	1,464,459	1,399,950	1,472,155	1,539,072
<u>1,000 dollars</u>										
Value:										
Netherlands	526,496	448,309	343,829	342,472	336,423	488,505	549,526	573,398	583,387	551,901
United States	555,140	395,295	466,108	323,383	349,338	411,190	564,213	417,622	503,982	405,299
Germany, West	540,294	523,026	348,567	343,173	306,636	424,360	519,140	544,503	514,191	446,135
USSR	470,709	373,336	235,262	215,276	318,710	370,876	364,366	359,306	297,866	231,650
United Kingdom	272,535	260,251	197,533	209,334	116,739	219,395	238,138	255,947	253,342	221,341
Singapore	25,764	36,230	45,573	59,950	76,110	91,903	110,734	105,562	139,734	171,406
France	203,312	170,842	115,859	108,431	101,538	116,932	110,802	110,354	100,255	90,243
Spain	138,188	106,480	81,920	60,550	66,793	84,788	91,303	87,016	79,266	79,929
Japan	89,330	71,239	66,682	71,908	72,137	86,613	93,521	93,672	90,156	85,054
Canada	38,539	35,941	34,966	32,884	31,532	58,356	49,654	45,039	42,830	44,765
Other	871,362	793,224	593,891	562,848	504,558	627,958	716,190	750,121	668,362	604,182
Total world	3,731,669	3,214,173	2,530,190	2,330,209	2,280,514	2,980,876	3,407,587	3,342,540	3,273,371	2,931,905

1/ Ranked according to quantity imported in 1988.

Source: (28).

importer, surpassing the United States and Germany in 1984. A rapidly growing chocolate industry in Singapore has also dramatically increased cocoa bean imports to that country in recent years.

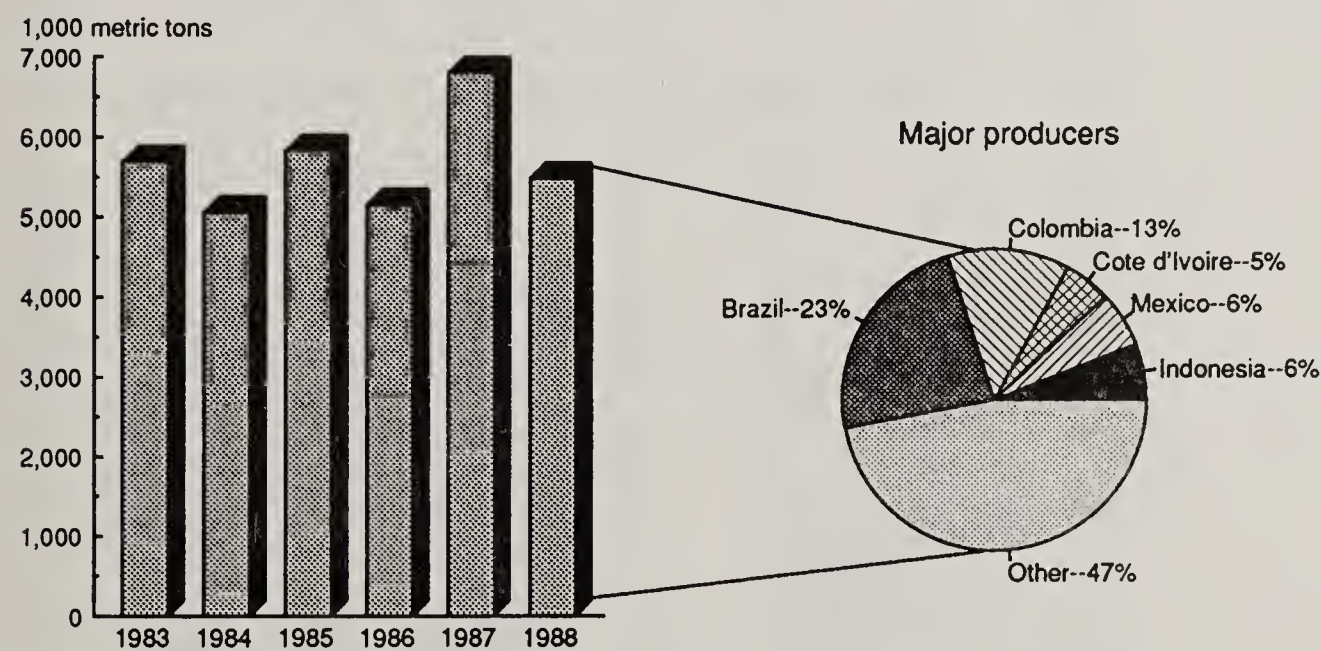
Coffee

Coffee is a heterogeneous product of several types. These include Arabica coffees, the higher quality types preferred for ground coffees, and the Robustas, lower quality types generally used for instant. Large variations in quality and price may exist from year-to-year, which can cause shifts in demand for coffees within the two types.

While low prices have reduced growth rates for coffee production in some countries, production continues to grow rapidly in others. Improved varieties planted at higher densities are the predominant cause of this growth (69). However, government subsidies in some countries, particularly in those where coffee is a primary source of revenue, such as Côte d'Ivoire and Ghana, have encouraged new tree plantings and rejuvenation of existing area to improve quality.

A large percentage of the world's coffee is produced in Latin America, predominantly Arabicas and other mild coffees. In 1988, 60 percent of total world production originated in Latin America, about the same as that in 1983. Brazil, Colombia, and Mexico have been among the top five coffee producing countries for the past 6 years (fig. 3). Significant production also takes place in Guatemala, Costa Rica, El Salvador, Honduras, and Ecuador.

Figure 3
World coffee bean production and major producing countries



Source: (27).

Coffee production in Latin America has been erratic over the past 6 years. Brazil, the world's largest coffee producer, has experienced severe drought and frost conditions, which have significantly reduced yields during some years. Moreover, the off/on biennial yield cycle common for coffee production appears in Brazilian coffee production data: a good year is usually followed by a bad year and vice versa. Weather, fluctuating input costs and interest rates, and the availability of credit are other factors affecting coffee production in Latin American (69).

Coffee production in Africa has been rising since 1985 and, today, coffee is the primary export commodity of several African countries, including Tanzania, Ethiopia, and Burundi. Production has risen significantly in Uganda, Cameroon, and Kenya, but low grower returns from depressed market prices and/or producer taxes and charges have constrained growth in others. The African countries primarily produce Robustas, but several countries also produce small amounts of mild Arabicas and Colombian milds.

Consumption Trends. Per capita consumption data are not available for coffee. However, coffee disappearance data are available for importing member countries of the International Coffee Organization (ICO). These data suggest coffee consumption in many of the importing ICO member countries as measured by disappearance is increasing (table 29). Particularly high rates of growth

Table 29--Coffee disappearance in importing member countries, 1980/81-1987/88 1/

Country	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88
<u>1,000 bags</u>								
Australia	572	684	614	623	591	568	726	698
Austria	819	980	1,107	982	911	962	970	998
Belgium and Luxembourg	1,464	1,357	1,297	1,347	1,155	1,274	1,154	1,288
Canada	1,937	1,861	1,759	1,795	1,835	1,811	1,724	1,920
Cyprus	33	28	33	33	29	16	37	45
Denmark	989	982	948	960	937	955	845	911
Fiji	3	3	3	2	1	1	1	1
Finland	993	1,046	1,065	1,044	995	970	1,004	934
France	5,609	5,349	5,395	5,110	5,115	4,988	5,326	5,396
Germany, West	7,240	7,633	7,332	7,294	7,046	7,107	8,278	7,869
Greece	431	443	450	452	527	398	421	493
Ireland	63	59	66	84	91	104	94	108
Italy	3,793	3,995	4,034	3,701	4,381	4,525	4,219	4,267
Japan	3,366	3,565	3,689	4,098	4,050	4,486	4,996	5,080
Netherlands	1,987	2,180	2,386	2,114	2,263	2,291	2,513	2,550
Norway	691	738	750	726	716	718	733	697
Portugal	190	232	329	322	349	326	380	426
Singapore	12	0	0	94	0	0	0	0
Spain	1,785	1,524	2,175	1,828	1,852	2,160	1,904	2,377
Sweden	1,653	1,696	1,663	1,656	1,650	1,554	1,572	1,663
Switzerland	701	592	638	632	678	719	756	794
United Kingdom	2,190	2,356	2,285	2,347	2,404	2,262	2,285	2,377
United States	17,926	18,106	18,129	18,493	17,930	18,148	18,004	17,645
Yugoslavia	786	516	497	364	256	740	998	806
Average	2,301	2,330	2,360	2,338	2,323	2,378	2,456	2,473

1/ October-September years.

Source: (32).

have occurred in Portugal, Japan, Spain, and the Netherlands since the 1980/81 crop year. However, the disappearance level is decreasing in other countries, including the United States, Canada, Belgium/Luxembourg, and France. This suggests declining consumption in these countries.¹⁸

Major Exporters. Brazil, Colombia, Indonesia, Côte d'Ivoire, and Mexico are the largest world coffee exporters, shipping 51 percent of total world exports in 1988 (table 30). Most coffee exports from these countries are in the form of green coffee beans since adequate incentives for the development of national roasting industries have not been forthcoming. Only Mexico and Indonesia export a small amount of roasted coffee.

Like cocoa and tea, coffee exports are often the primary component of the total revenue received from exporting agricultural commodities for the major exporting countries. In 1987, coffee bean exports were the single largest contributor to agricultural export revenues in Brazil, Colombia, Indonesia, and Mexico, and the second largest contributor in Côte d'Ivoire (62).

Major Importers. The top five coffee bean importers are the United States, Germany, France, Japan, and Italy. These countries together accounted for 58 percent of total world coffee bean imports and 57 percent of the total world import value in 1988 (table 31). Although these countries import mainly beans to support domestic coffee roasting industries, each country also imports a small amount of roasted coffee.

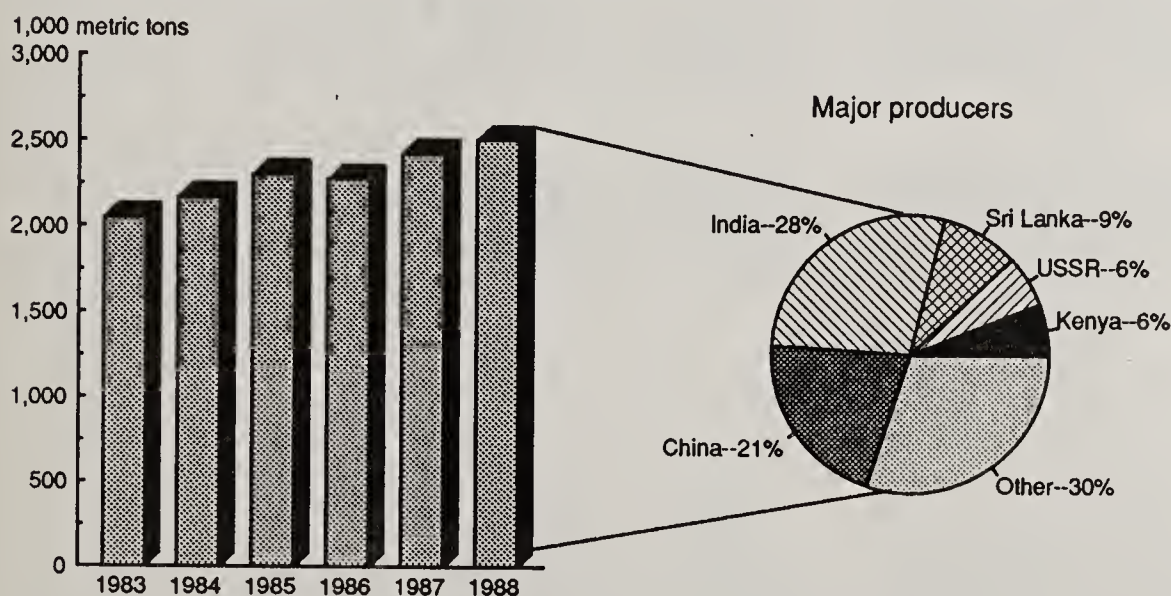
Tea

World tea production rose 23 percent over the 6-year period beginning in 1983 to reach a record high of about 2.5 million metric tons in 1988 (fig. 4).

¹⁸ Statistics published for the United States by the Wine Institute also indicate this decline (74).

Figure 4

World tea production and major producing countries



Source: (27).

Table 30--Top 10 exporting countries for green coffee beans, 1979-88 1/

Country	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Quantity:										
Brazil	562,196	784,465	825,443	888,023	939,671	1,031,895	1,033,611	477,907	987,609	848,000
Colombia	656,739	660,078	535,941	525,183	539,452	598,895	585,285	666,645	661,631	567,726
Indonesia	220,192	238,677	210,595	226,985	241,223	294,463	282,671	298,124	286,247	298,858
Côte d'Ivoire	259,743	206,431	231,107	272,381	222,795	187,531	240,566	229,815	166,000	235,000
Mexico	170,314	157,769	151,715	152,535	181,418	159,620	211,656	197,329	212,259	155,000
Uganda	143,100	110,100	128,332	174,723	144,274	133,200	152,300	140,600	145,000	150,000
Guatemala	143,346	128,710	109,896	140,210	142,860	127,247	172,508	154,843	138,000	134,000
El Salvador	184,730	146,786	131,600	141,435	159,000	170,047	148,092	123,195	145,575	123,034
Zaire	62,799	74,123	67,645	68,004	63,363	77,261	67,900	129,000	98,500	80,000
Ecuador	82,211	53,915	55,994	75,450	75,045	72,532	75,308	108,801	98,764	74,217
Other	1,246,767	1,107,852	1,207,375	1,210,459	1,226,570	1,247,408	1,328,699	1,443,381	1,398,010	1,425,606
Total world	3,732,137	3,668,906	3,655,643	3,875,388	3,935,671	4,100,099	4,298,596	3,969,640	4,337,595	4,091,441
Value:										
1,000 dollars										
Brazil	1,917,618	2,486,055	1,516,646	1,857,539	2,095,749	2,564,293	2,369,178	2,005,902	1,959,196	1,998,000
Colombia	2,005,843	2,360,804	1,423,621	1,561,494	1,506,187	1,764,504	1,745,521	2,988,310	1,650,648	1,640,657
Indonesia	614,236	656,003	345,943	341,700	427,211	565,241	556,203	818,386	535,309	549,634
Côte d'Ivoire	783,200	645,198	445,418	465,647	413,847	421,100	623,340	674,422	393,220	470,000
Mexico	574,859	421,431	334,357	387,407	320,143	424,434	510,855	822,958	492,598	428,000
Uganda	425,900	338,700	241,600	341,000	339,400	381,930	420,456	397,000	302,300	285,000
Guatemala	430,301	469,781	294,825	354,444	357,696	354,550	391,224	525,260	355,100	377,000
El Salvador	575,190	684,962	458,000	402,560	399,120	355,322	452,560	512,572	351,337	346,800
Zaire	143,106	166,440	111,610	116,786	118,000	201,790	169,640	327,420	168,186	160,000
Ecuador	263,967	132,181	105,869	142,793	148,607	176,133	179,098	336,813	192,284	152,356
Other	5,418,445	5,294,993	4,592,094	3,998,949	3,899,836	3,785,920	3,836,188	6,546,882	5,046,839	4,587,362
Total world	13,152,665	13,656,548	9,869,983	9,970,319	10,025,796	10,995,217	11,254,263	15,955,925	11,446,817	10,994,809

1/ Ranked according to quantity exported in 1988.

Source: (28).

Table 31--Top 10 importing countries for green coffee beans, 1979-88 1/

Country	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Quantity:										
United States	1,163,747	1,089,166	993,370	1,050,113	987,904	1,065,485	1,123,538	1,170,771	1,193,918	920,899
Germany, West	474,125	466,391	508,186	519,483	521,343	513,771	522,788	568,701	616,712	641,584
France	312,468	313,485	308,417	317,422	317,672	281,179	277,213	282,205	297,628	303,442
Japan	174,703	174,747	175,044	185,636	204,012	223,083	231,193	242,519	270,240	263,865
Italy	225,349	219,905	225,295	245,885	246,152	223,181	281,158	251,642	263,887	257,290
Netherlands	151,421	135,239	145,413	129,748	138,349	148,064	159,823	161,965	169,713	168,798
Spain	109,450	149,613	113,604	113,116	139,229	124,363	128,701	144,485	156,170	149,133
Canada	81,145	73,990	89,081	80,684	83,052	89,601	85,571	88,961	103,865	99,671
Algeria	53,960	65,192	84,228	47,470	92,659	70,544	79,575	35,890	110,931	65,000
Argentina	35,964	30,291	33,468	40,153	36,062	41,051	29,735	32,750	33,652	32,000
Other	1,041,076	996,336	1,058,780	1,069,528	1,128,683	1,157,385	1,160,794	1,129,121	1,210,018	1,234,474
Total world	3,823,408	3,714,355	3,734,886	3,799,238	3,895,117	3,937,707	4,080,089	4,109,010	4,426,734	4,136,156
Value:										
United States	3,818,977	3,872,659	2,622,971	2,730,100	2,590,417	3,063,879	3,130,140	4,293,175	2,705,640	2,288,344
Germany, West	1,722,465	1,731,345	1,413,457	1,525,976	1,464,696	1,566,908	1,580,895	2,385,408	1,764,647	1,863,252
France	1,060,474	1,098,609	723,652	775,924	821,145	812,734	777,152	1,034,369	754,391	737,715
Japan	621,226	668,153	462,675	523,898	567,723	686,551	681,835	1,029,272	723,765	744,069
Italy	798,384	826,534	605,293	621,578	648,771	652,224	818,429	956,025	751,293	673,407
Netherlands	530,291	503,893	385,851	360,601	378,594	439,596	459,461	653,326	453,352	469,025
Spain	371,342	559,027	285,126	298,099	361,755	367,617	360,910	561,341	373,282	366,291
Canada	293,325	276,644	255,058	235,606	238,497	279,557	250,632	355,243	272,006	278,689
Algeria	181,559	250,271	220,383	104,043	200,661	130,440	129,767	117,458	294,805	170,000
Argentina	109,647	105,115	77,511	79,280	59,230	58,017	62,560	142,624	71,666	88,000
Other	3,644,975	3,764,298	2,818,006	2,715,214	2,694,307	2,937,694	3,002,482	4,427,684	3,281,970	3,316,017
Total world	13,152,665	13,656,548	9,869,983	9,970,319	10,025,796	10,995,217	11,254,263	15,955,925	11,446,817	10,994,809

1/ Ranked according to quantity imported in 1988.

Source: (28).

About 90 percent of world production occurs in developing countries, particularly Asian countries, and none is produced in North America. In 1988, the top five tea producing countries, India, China, Sri Lanka, Kenya, and the USSR, together accounted for 70 percent of total world tea production. Production in these countries has increased almost yearly since before 1983. However, an overabundance of low-quality tea and ample stocks in most of the major importing countries currently depresses market prices (70). Production expansion will likely be in higher quality tea varieties. Most international trade in tea is between Asian countries, although several other countries import and export significant quantities.

Consumption Trends. Per capita consumption data from the International Tea Committee show that tea consumption is steady to declining in many areas of the world (table 32). Tea consumption is highest in the Far and Middle Eastern countries of Qatar, Iraq, Kuwait, and Turkey. Other important tea consuming countries include Ireland and the United Kingdom. Consumption levels are significantly lower in the other Western European and Eastern European countries.

Major Exporters. Major tea exporting countries include India, Sri Lanka, China, Kenya, and Indonesia. These five countries together accounted for 77 percent of the total volume of world tea exports and 75 percent of the total value of world tea exports in 1988 (table 33). Tea exports are the primary source of revenues received from exporting agricultural commodities in India and Sri Lanka and the second major source in Kenya (62).

Although tea is not produced in the United Kingdom, the country ranks among the top 10 exporting countries because of the significant quantity of tea leaves that are processed and blended in the United Kingdom for re-export.

Major Importers. In 1988, the top five tea importing countries were the United Kingdom, the United States, Pakistan, Egypt, and Iraq, which together accounted for 44 percent of total world tea imports during that year (table 34). The United Kingdom is by far the largest importing country, accounting for 17-22 percent of total world imports since 1970. The United Kingdom imports a significant quantity of tea both for domestic consumption and for blending and re-export. Imports are often sold through the London Tea Auction, one of the largest tea auction houses in the world.

Policies Affecting World Markets For Fresh Fruit, Vegetables, Wine, and Tropical Beverages

Governments intervene in the production and marketing of fresh fruit, vegetables, wine, and tropical beverages for a variety of reasons: (1) increase government revenue, (2) improve a country's balance of payments deficit, (3) protect value-added industries, (4) support or enhance producer returns, (5) retaliate against the actual or perceived unfair trade practices of another country or countries, or (6) reduce consumer costs. The methods and degrees by which governments intervene in markets for fresh fruit and vegetables, wine, and tropical beverages vary considerably around the world. But, virtually every government intervenes in the production and supply of these commodities either through domestic farm policies or trade policies. While these policies may achieve desired national objectives, conflicts can arise when the policies of trading countries are in opposition, or when intervention alters comparative advantages between producers in different

Table 32--Per capita tea consumption, triennial averages, various countries

Country	1979-81	1980-82	1981-83	1982-84	1983-85	1984-86
<u>Kilograms</u>						
North America:						
United States	0.36	0.37	0.35	0.35	0.34	0.36
Canada	0.81	0.78	0.73	0.72	0.69	0.68
Chile	1.12	0.96	0.97	0.93	0.97	0.91
Western Europe:						
United Kingdom	3.22	3.19	3.08	3.06	2.97	2.94
Austria	0.15	0.16	0.16	0.17	0.16	0.16
Belgium and Luxembourg	0.11	0.12	0.13	0.13	0.13	0.13
Denmark	0.46	0.46	0.46	0.46	0.46	0.46
Finland	0.17	0.19	0.19	0.19	0.18	0.17
France	0.15	0.15	0.15	0.15	0.16	0.17
Germany, West	0.24	0.25	0.24	0.25	0.25	0.26
Ireland	3.56	3.32	2.96	2.85	3.00	3.03
Italy	0.06	0.06	0.06	0.06	0.06	0.06
Netherlands	0.65	0.66	0.66	0.66	0.65	0.65
Norway	0.19	0.19	0.20	0.20	0.21	0.21
Sweden	0.35	0.34	0.34	0.35	0.35	0.36
Switzerland	0.27	0.29	0.29	0.30	0.30	0.29
Eastern Europe:						
Czechoslovakia	0.16	0.16	0.15	0.16	0.14	0.14
Germany, East	0.14	0.15	0.14	0.14	0.15	0.16
Poland	0.67	0.70	0.71	0.71	0.78	0.81
USSR	0.67	0.72	0.74	0.74	0.79	0.85
Far/Middle East:						
Afghanistan	0.86	0.79	0.66	0.60	0.61	0.63
Bahrain	1.53	1.50	1.40	1.57	1.55	1.52
Hong Kong	1.60	1.60	1.61	1.73	1.74	1.69
India	0.52	0.53	0.53	0.54	0.54	0.55
Iran	0.99	0.93	0.90	1.04	1.13	1.05
Iraq	2.54	2.52	2.44	2.69	2.63	2.72
Japan	0.97	0.95	0.94	0.91	0.93	0.94
Jordan	1.10	1.08	1.07	1.05	1.04	1.12
Kuwait	5.22	4.28	2.67	2.18	2.41	2.55
Pakistan	0.84	0.84	0.89	0.90	0.93	0.90
Qatar	5.39	3.95	3.21	3.54	3.97	3.74
Saudi Arabia	1.65	1.61	1.60	1.67	1.77	1.69
Sri Lanka	1.43	1.41	1.45	1.43	1.43	1.43
Syria	1.03	1.01	1.05	1.26	1.42	1.43
Thailand	0.02	0.01	0.01	0.01	0.01	0.01
Turkey	1.67	1.44	1.48	1.98	2.41	2.65
Africa:						
Algeria	0.47	0.45	0.37	0.32	0.26	0.24
Egypt	1.27	1.26	1.31	1.44	1.53	1.54
Kenya	0.83	0.82	0.81	0.77	0.79	0.80
Morocco	1.07	0.87	0.88	0.85	0.95	0.99
South Africa	0.69	0.65	0.61	0.60	0.59	0.56
Sudan	0.42	0.52	0.57	0.61	0.59	0.55
Tanzania	0.19	0.18	0.20	0.18	0.17	0.17
Tunisia	1.49	1.23	1.53	1.61	1.71	1.81
Oceania:						
Australia	1.56	1.50	1.46	1.39	1.35	1.31
New Zealand	2.17	2.07	2.02	1.92	1.85	1.77
Total average	1.1	1.0	1.0	1.0	1.0	1.0

Source: (33).

Table 33--Top 10 exporting countries for tea, 1979-88 1/

Country	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Quantity:										
					<u>Metric tons</u>					
India	164,193	238,532	238,750	188,295	201,152	209,249	208,379	203,149	204,230	221,540
Sri Lanka	187,545	184,728	183,362	181,215	157,938	204,471	197,590	207,614	201,068	219,760
China	118,763	116,313	99,267	115,840	136,859	157,217	146,688	181,684	182,221	187,500
Kenya	105,377	84,455	84,095	90,516	106,687	102,815	139,078	133,172	150,458	155,334
Indonesia	53,581	74,211	71,259	63,659	68,624	85,650	90,121	79,020	90,415	92,680
Argentina	29,627	33,477	25,872	33,083	44,733	43,222	43,055	36,490	38,085	37,000
Malawi	30,995	31,274	31,017	36,431	35,874	37,208	37,369	40,197	33,404	36,882
Bangladesh	26,712	25,744	31,786	39,004	31,418	33,802	26,481	30,410	21,410	29,227
United Kingdom	24,021	24,314	25,106	24,110	29,077	33,314	33,006	31,608	34,940	28,859
Tanzania	15,022	13,289	14,086	11,938	16,650	11,110	11,118	11,418	11,872	11,000
Other	147,532	157,424	146,588	142,664	146,279	162,223	149,729	141,401	131,970	119,813
Total world	903,368	983,761	951,188	926,755	975,291	1,080,281	1,082,614	1,096,163	1,100,073	1,139,595
Value:										
					<u>1,000 dollars</u>					
India	349,987	582,053	506,832	372,424	480,576	634,900	552,078	458,872	517,000	563,000
Sri Lanka	366,221	372,156	335,089	304,897	351,229	615,129	440,905	331,451	360,666	380,342
China	242,166	244,487	210,642	236,978	250,750	333,264	318,729	362,630	393,737	406,734
Kenya	184,449	171,230	149,395	154,071	192,587	281,574	249,031	233,048	220,363	225,854
Indonesia	83,388	112,669	100,837	89,492	120,435	226,282	149,083	99,088	118,733	125,308
Argentina	22,179	27,983	25,660	29,077	37,210	56,552	40,444	21,706	18,904	23,000
Malawi	37,688	36,653	34,188	42,222	47,750	80,188	53,856	36,895	27,689	31,130
Bangladesh	40,378	35,596	40,969	40,610	46,219	67,982	59,590	32,846	29,804	41,369
United Kingdom	132,058	149,530	144,594	130,492	141,763	181,422	182,794	174,794	201,182	193,621
Tanzania	19,842	22,260	19,874	18,143	22,085	24,037	15,786	16,842	13,148	15,837
Other	271,259	271,604	244,717	223,726	253,088	363,408	303,767	266,346	258,975	265,377
Total world	1,749,615	2,026,221	1,812,797	1,642,132	1,943,692	2,864,738	2,366,063	2,034,518	2,160,201	2,271,572

1/ Ranked according to quantity exported in 1988.

Source: (28).

Table 34--Top 10 importing countries for tea, 1979-88 1/

Country	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<u>Metric tons</u>										
Quantity:										
United Kingdom	197,750	210,412	160,408	207,697	184,261	217,517	188,366	202,718	177,428	191,514
United States	79,238	83,833	86,297	82,830	77,317	88,279	79,241	89,797	77,394	90,140
Pakistan	61,118	60,912	72,531	69,453	81,239	95,870	84,256	83,099	92,787	90,004
Egypt	35,125	23,547	30,131	37,142	42,280	39,499	40,678	54,790	50,003	76,524
Iraq	34,000	37,200	29,700	36,500	35,754	56,494	40,000	46,416	47,441	53,000
Iran	22,293	7,000	17,442	13,445	17,364	37,822	26,320	29,581	48,000	35,000
Poland	22,755	23,770	24,547	26,764	25,908	25,520	34,697	29,945	32,099	33,632
Morocco	23,859	17,551	22,622	13,869	16,593	22,586	22,256	20,402	23,426	27,997
Netherlands	22,653	22,646	22,506	21,825	23,414	25,902	24,559	20,557	21,093	23,687
Saudi Arabia	14,301	15,732	16,856	15,494	18,216	20,609	21,045	17,713	18,359	20,000
Other	378,221	405,323	400,101	363,398	390,758	420,313	450,241	471,255	472,573	489,907
Total world	891,313	907,926	883,141	888,417	913,104	1,050,411	1,011,659	1,066,273	1,060,603	1,131,405
<u>1,000 dollars</u>										
Value:										
United Kingdom	403,602	463,107	301,519	367,059	351,825	403,602	463,107	381,079	325,980	352,045
United States	125,257	129,947	132,757	128,689	131,381	202,624	166,168	132,627	105,915	128,959
Pakistan	100,960	96,304	119,555	103,608	132,379	189,945	231,442	134,861	153,601	128,002
Egypt	66,166	47,166	58,509	87,728	90,970	105,243	133,018	147,207	173,541	285,509
Iraq	81,000	68,800	40,700	73,000	88,088	167,723	88,000	69,162	76,923	90,000
Iran	67,612	22,900	51,924	32,784	45,309	126,575	78,388	71,963	130,000	98,000
Poland	46,657	54,782	49,181	48,599	56,240	64,019	80,037	74,375	76,638	71,611
Morocco	48,816	38,869	53,999	35,047	38,116	54,612	54,869	51,421	57,075	71,534
Netherlands	40,520	43,549	36,959	31,616	35,335	57,498	50,066	34,312	34,601	39,258
Saudi Arabia	46,549	62,078	67,547	59,047	75,072	97,209	89,090	64,982	64,634	75,000
Other	922,689	1,046,826	976,752	826,895	939,261	1,500,817	1,193,747	1,156,064	1,220,829	1,241,950
Total world	1,949,828	2,074,328	1,889,402	1,794,072	1,983,976	2,969,867	2,627,932	2,318,053	2,419,737	2,581,868

1/ Ranked according to quantity exported in 1988.

Source: (28).

countries, restricts trade, or increases costs to producers, consumers, or taxpayers.

Governments use a myriad of mechanisms designed to support producers, generate government revenues, or curtail import competition. Which objectives are most important differs according to the country's development level, its net trade flow, and whether the target commodity is also domestically produced.

Developing country importers of fresh produce, wine, and tropical beverages often impose tariffs and other import taxes, or directly prohibit importation.¹⁹ Tariffs can be imposed for the specific objective of generating government revenue and as a source of foreign exchange. Import taxes may substitute for the application of domestic excise taxes as a means to redistribute incomes, while direct prohibition limits the outflow of foreign exchange (54). The general effect of these instruments is higher domestic consumer prices.

Large developing country exporters usually have a comparative advantage in the production of one or more agricultural specialty commodities. Production in these countries is primarily for export purposes; for example, bananas and cocoa beans. Lack of a large domestic market means domestic consumer costs for these commodities are less of an issue than their revenue generating potential as exports.

Developing country exporters usually maintain a mix of policies that subsidize production and tax exports. Some of these countries may also provide some form of export subsidy or promotion, or exports may be controlled by state marketing boards so that the full benefit of exporting the commodity is realized by the government. It is unclear as to whether there is a net taxing effect on producers of agricultural specialty commodities in these countries, but empirical evidence indicates there may be for some bulk agricultural commodities (40, 73).

There are relatively few barriers to trade imposed on primary agricultural specialty commodities by the major developed country importers in which there is negligible domestic production for the commodity. Since extracting government revenue from foreign sources is usually not a major issue, these countries may impose only a small import tariff, which is generally not high enough to affect demand to any major extent.²⁰ These countries also frequently sign trade agreements with developing country exporters and provide capital or credit needed for production development. This helps to show good faith, cement trading relationships, and ensure supply channels.

¹⁹ Few developing countries import agricultural specialty commodities if there is domestic production.

²⁰ Several agricultural specialty commodities, such as coffee and cocoa beans, are usually imported strictly for processing purposes. In order to protect their national processing industries, governments may apply higher tariffs to imports of products further along the processing chain; for example, roasted coffee and cocoa powder. This system of tariff escalation may inhibit growth of processing industries in developing countries, the primary source of the raw material. See (30) for further discussion of tariff escalation and the effects on developing countries.

The trade barriers erected by developed country importers in countries in which there is also substantial domestic production can be quite serious. These countries may use tariffs and reference prices, adjusted seasonally, to curtail imports during domestic production seasons. The incidence of nontariff barriers, such as quotas, is also high in many of these countries.

The domestic farm and trade policies of the major importing and exporting countries applicable to fresh fruit and vegetables, wine, and tropical beverages are described below.²¹

Fresh Fruit and Vegetables

Government intervention policies for fresh fruit and vegetables vary between countries in which production is primarily for domestic consumption and those countries which produce primarily for export. Fresh fruit and vegetable producers in the United States, for example, receive little direct government support for their production, but are provided with some protection against import competition by the assessment of seasonal import tariffs. EC producers are guaranteed prices for some fresh fruit and vegetables through provisions set forth in the Common Agricultural Policy (CAP). Tariffs and a system of reference prices which act as minimum import prices also protect EC producers against import competition, while export refunds encourage the export of surplus commodities. In Chile and Mexico, where commercial fresh fruit and vegetable production is primarily for export purposes, government policies are oriented toward enhancing the ability of growers to compete in world markets.

Domestic Policies of the Major Market Players

Domestic farm policies for fresh fruit and vegetables, wine, and tropical beverages include measures to support prices and assist growers in the production or marketing of the target commodity. In general, use of government programs to directly support producer prices and incomes is less prevalent for agricultural specialty commodities than for most bulk agricultural commodities. However, the use of policies to assist production and marketing activities is widespread.

Price Support and Income Programs. Direct price support and income programs are not common for fresh fruit and vegetables, but the governments of some countries have implemented guaranteed price programs to ensure or support the prices received by their producers. Because prices are often fixed at levels higher than what the market would normally deliver, these programs are usually linked to trade policies, such as tariffs and other import restrictions, which provide protection against an influx of lower priced imports that would undercut the fixed domestic price. Fixed pricing policies essentially function as a production subsidy and as an implicit export subsidy because they raise domestic prices above world market prices.

United States. The United States does not maintain any price support or income programs for fruit and vegetable growers on a regular basis. However, fruit and vegetable growers are eligible to receive disaster relief for crop losses stemming from major catastrophes as determined by the Secretary of Agriculture. This relief is usually in the form of low-cost loans, or replacement of dead fruit trees in some cases.

²¹ This section draws heavily on information in (14, 52, 54, 60, and 67).

Assistance may also be provided to alleviate market surpluses under special circumstances. For example, in July 1989, USDA allocated \$15 million to cover the cost of removing surplus apples from storage after media attention sparked consumer concerns about consuming apples treated with Alar, a chemical growth regulator, causing a precipitous drop in shipments and prices. Government purchases of fresh fruit and vegetables for the school lunch program and other food donation programs can also be used to help alleviate surplus market conditions and boost prices.

European Community. The EC supports prices for fresh fruit and vegetables through CAP provisions which compensate producers for withdrawing selected commodities from the market during periods of surplus, and provide export rebates to encourage exports.

Unlike CAP policies for some other agricultural commodities subject to intervention, the CAP price support system for fresh fruit and vegetables is designed to act only as a safety net for producers during periods of oversupply and not to guarantee prices over periods of over- and undersupply. This is because of the highly perishable nature of fruit and vegetables which makes storage for long periods of time uneconomical. Support prices for fruit and vegetables are typically well below market levels, in contrast to other agricultural commodities for which support prices are used to elevate producer prices toward a target price set above an intervention price (2).

There are 13 fruits and vegetables currently eligible for withdrawal during their relevant production seasons (table 35). Withdrawal is normally carried out through approved producer groups who receive payment from the intervention agencies in member states and are responsible for payment to producers. Produce withdrawn from the market must be disposed of in approved outlets, including free gifts to specified institutions or charities, animal feed manufacturers, and processing (2).

Withdrawal prices are derived from basic and buying-in prices that are adjusted by coefficients derived to account for the commercial characteristics of produce, such as variety, quality, size, form or presentation, and packaging.

The basic price for a commodity is an indicative price representing the price levels existing across the Community's primary production areas.²² The buying-in price, which provides the basis for determining the actual withdrawal price, is set within a prescribed percentage range of the basic price. The percentage range varies by commodity: 30-45 percent for eggplant, cauliflower, and tomatoes; 40-55 percent for apples and pears; and 45-65 percent for apricots, peaches, table grapes, lemons, oranges, mandarins, clementines, and satsumas. The actual withdrawal price is the adjusted buying-in price plus 10 percent of the basic price (2).

In addition to the normal withdrawal program, special provisions also allow for the preventive withdrawal of apples and pears at the beginning of the marketing year should oversupply conditions be anticipated, and for buying-in

²² Basic prices were originally derived from the average producer price in the Community over a set period, but they are now adjusted to account for such factors as the need to stabilize prices and support producer incomes, consumer interests, and the budgetary implications of price changes (2).

Table 35--Fruit and vegetables eligible for withdrawal in
the European Community

Commodity	Withdrawal season
Apples	August-May
Apricots	June-July
Aubergines (eggplant)	July-October
Pears	July-April
Peaches	June-September
Table grapes	August-October
Lemons	June-May
Tomatoes	June-November
Oranges	December-May
Mandarins (and other hybrids)	November-February
Clementines	December-February
Satsumas	October-January
Cauliflower	May-April

Source: (2).

of summer pears, peaches, apricots, tomatoes, and eggplants by member states, should prices on representative wholesale markets drop below prescribed levels (2).

In order to protect EC producers from low-priced imports from third countries entering during the primary marketing season, a reference price system is employed for various fruits and vegetables (table 36). The reference price system is separate and distinct from the EC's tariff system. Reference prices, differentiated by season and quality standards, act as minimum import prices.²³ Should the import price for a particular commodity (adjusted for quality, import duties, and any countervailing charges in effect at the time of entry) on representative EC markets fall below the reference price for a qualifying period, the importer is assessed an additional levy, or countervailing duty, equal to the difference between the reference and import price. The duty is removed when the import price equals or exceeds the reference price for 2 consecutive days or when no prices have been recorded on EC markets for imports of the commodity from the offending country for 6 consecutive days. Countervailing duties frequently have been applied to some commodities, particularly tomatoes (14).

Export refunds to encourage exports may also be used to dispose of surplus fruit and vegetables if commodities meet set quality standards and there are

²³ Reference prices are set at the beginning of each marketing year and are derived by comparing the previous year's reference price with average producer prices over the past three seasons, also accounting for trends in production costs (2).

Table 36--Fruit and vegetables covered by the European Community's reference price system

Commodity	Reference price period
Apples	July 1 - June 30
Apricots	June 1 - July 31
Table grapes	July 21 - November 20
Lemons	June 1 - May 31
Oranges, hybrids	November - end of February
Oranges, sweet	December 1 - May 31
Peaches	June 11 - September 30
Pears	July 1 - April 30
Cherries	May 21 - August 10
Plums 1/	June 11 - September 30
Plums 2/	August 1 - September 30
Clementines	November 1 - end of February
Cucumbers	February 11 - November 10
Tomatoes	April 1 - December 20
Courgettes (squash)	April 21 - September 30
Aubergines (eggplant)	April 1 - October 31
Endive	November 15 - March 31
Cabbage lettuce	November 1 - May 31
Artichokes	November 1 - June 30

1/ Varieties include Altesse double, Precoce favorite, Belle de Leouvain, Conducta, Early Rivers, Kirk's Blue, Jefferson Gage, Lutzelsacher, Anna Spath, Ersinger, Zimmers, Burbank, Florentina, Goccia d'ore, Reine-Claude, Czar, Victorias, Purple Pershore, Damsons, and Santa Rosa.

2/ Varieties include Altesse simple, Reine-Claude d'Oullins, Sveskeblommer, RuthGerstetter, Ontario, and Pershore (yellow egg).

Source: (2).

opportunities for exporting significant quantities. Refunds may vary seasonally and also by country of destination (2).

In the past, the EC citrus industry has also received special aid in the form of market penetration premiums to assist with the marketing of EC citrus on internal markets. However, these premiums are being phased out. The only remaining premium for sweet oranges and mandarins is scheduled to be terminated by 1993/94. Market penetration premiums are being replaced with processing aids to encourage juice processing, and by strengthened reference prices (2, 14).

The CAP intervention system for fruit and vegetables also extends to processed commodities. The mechanics of the scheme for processed fruit and vegetables involve payments to processors (called processing aids) to compensate them for having to pay a premium price to growers to obtain raw materials. Processed products eligible for processing aid include canned and frozen peeled

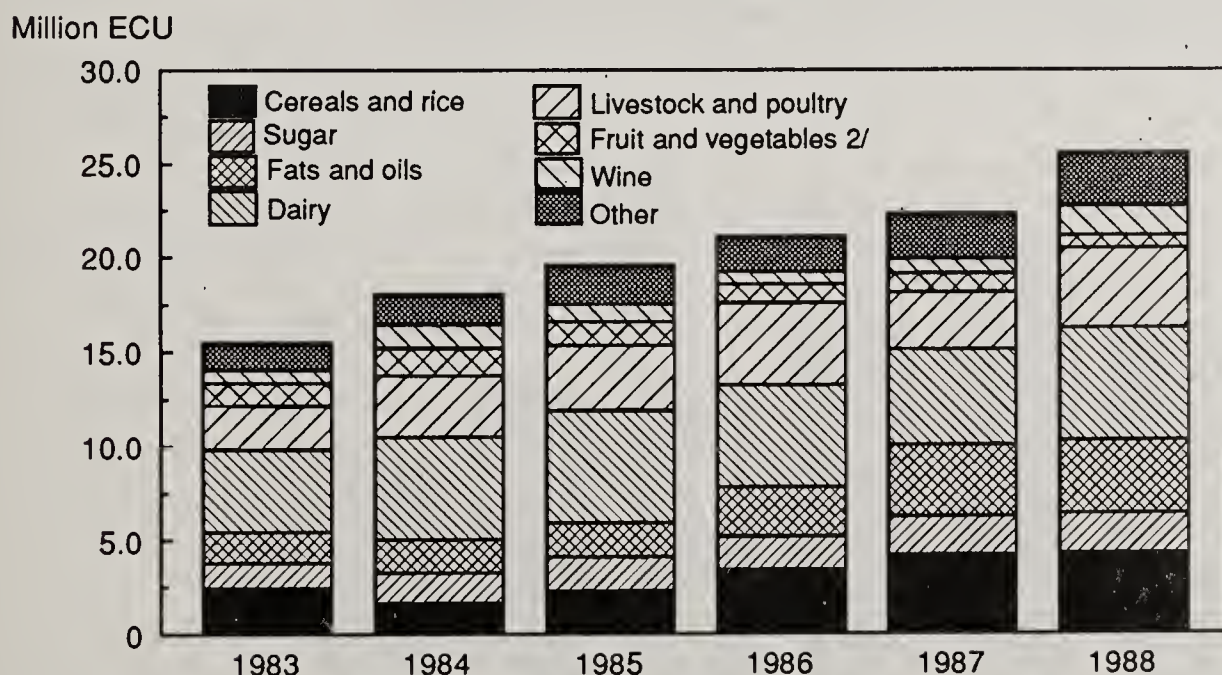
tomatoes, concentrate, dried flakes, and juice; dried grapes, figs, and prunes (from d'Ente plums); canned peaches in syrup; and canned Williams pears in syrup. In addition to the processing aid, EC processors receive protection from competition from lower priced imports of some commodities through the imposition of import licensing requirements for sensitive products, minimum import prices, import levies on the added sugars in processed products, and voluntary export agreements with third countries to honor minimum prices on exports to the EC.²⁴

Although highly variable from year to year depending on crop conditions, the support provided to the fruit and vegetable sector through EC budgetary expenditures has trended down since 1984. EC budgetary expenditures for fruit and vegetables have been a declining share of total EC budgetary expenditures for the agricultural sector as support levels for other agricultural commodities have risen (fig. 5). The level of assistance provided to the fresh and processed fruit and vegetable sector in 1988 was less than half that

²⁴ The EC's subsidy scheme for canned fruit became an issue with the United States as the processing aids paid to EC canned peach and pear processors reached a level that more than offset the added costs of the minimum grower prices, thus giving EC processors a competitive edge in world markets. In 1988, the United States filed a complaint under GATT concerning the subsidy and instituted a trade investigation. In 1989, the EC agreed to revise its method of calculating the subsidy so as to permit processors to pay minimum grower prices for canning fruits without their being unfairly subsidized. The trade investigation was terminated once the EC made its modifications (42).

Figure 5

EC agricultural expenditures by sector, 1983-88 1/



1/ Includes export refunds and market intervention expenditures.

2/ Includes fresh and processed.

Source: (17).

provided in 1984. At the same time, assistance provided to the fruit and vegetable sector was only 3 percent of total EC agricultural expenditures in 1988, compared with 8 percent in 1983.

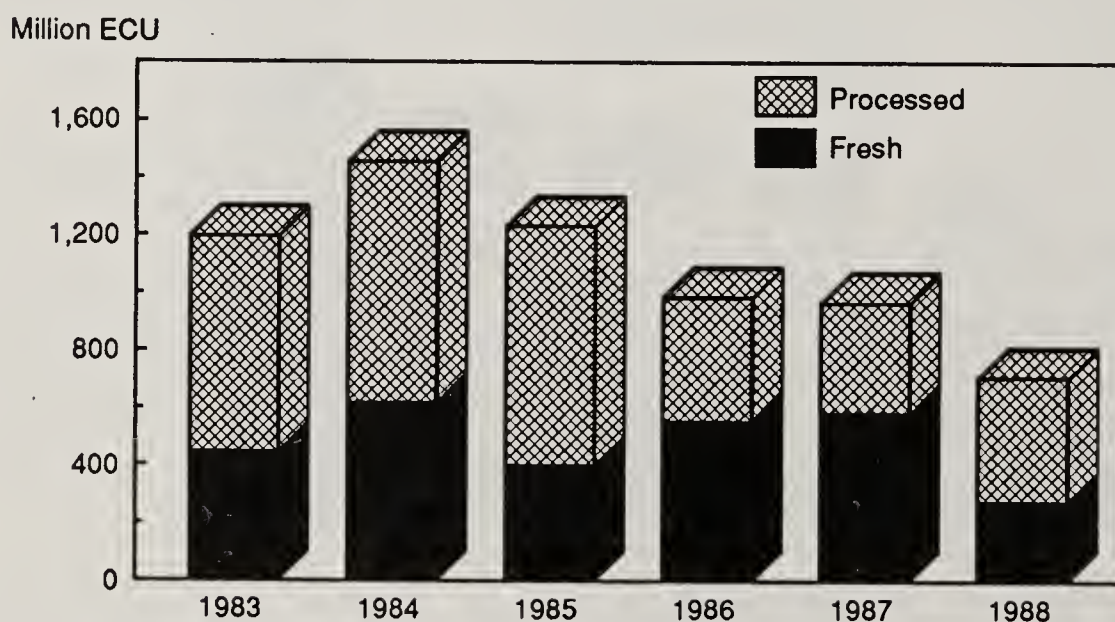
Because fresh fruit and vegetables are perishable commodities, the level of assistance provided to producers is highly variable from year to year. Since 1983, budgetary expenditures for supporting fresh fruit and vegetable producers have ranged from a low of 33 percent of the total expenditures provided to fresh and processed fruit and vegetable producers in 1985, to a high of 61 percent in 1987 (fig. 6). EC budgetary expenditures for fresh fruits and vegetables are primarily for compensating producers for withdrawing produce from the market (table 37). Withdrawal expenditures have ranged between 60 and 72 percent of total EC budgetary expenditures for supporting fresh fruit and vegetable producers since 1983.

Mexico and Chile. Since fruit and vegetables provide Mexico and Chile with a major potential for earning export revenues, government programs in both countries are oriented toward enhancing exports and increasing the competitiveness of their producers in world markets. Neither country currently provides producers with direct price or income support.

Canada. In Canada, the Agricultural Stabilization Act provides price support for selected agricultural commodities. Fruit and vegetables may be designated for support during any year should oversupply conditions depress market prices. A support price of at least 90 percent of the previous 5-year average market price, adjusted by the difference between average production costs in the current year and average production costs in the previous 5-year period, is used to determine a deficiency payment if the market price falls below the support price (46). In the past, apples and potatoes were included in the program on a regular basis. However, in recent years, payments for these and other fruit and vegetables have been infrequent.

Figure 6

EC support expenditures for fruit and vegetables, 1983-88 1/



1/ Includes export refunds and market intervention expenditures.

Source: (17).

Table 37--Breakdown of EC budgetary expenditures for fresh fruit and vegetables, 1983-88

Intervention program						
Year	Export refunds	Withdrawal and buying-in	Compensation for citrus industry		Other	Total
			Production aid	Aid for processing and final consumption		
<u>Million ECU</u>						
1983	51.9	303.5	15.2	79.3	0.0	449.9
1984	50.1	446.1	19.4	103.6	.0	619.2
1985	63.0	213.4	25.5	100.0	.0	401.9
1986	65.0	338.0	27.0	126.8	.0	556.8
1987	52.3	417.3	22.4	93.3	.6	585.9
1988	48.5	169.2	11.0	53.8	.0	282.5

Source: (17).

In 1986, the Agricultural Stabilization Act was modified to permit replacement of the current deficiency payment system with voluntary tripartite stabilization programs. Under these programs, the federal government, provincial governments, and producers may contribute equally to a fund used to make the deficiency payment to producers when market prices fall below established support prices (46). A 2-year, tripartite agreement for apples, initially signed in 1986, was recently extended to cover the 1989 crop (3). Under the National Tripartite Apple Program, payments are triggered if the farm price drops below 85 percent of the previous 10-year indexed moving average price. Payments were made to producers in 1987, but were not required under the terms of the program in 1988 (3). In May 1990, the National Tripartite Stabilization Committee announced that apple growers enrolled in the tripartite program would also receive payments for their 1989 crop (64). A tripartite program is also in effect for onions.

Production Control Programs. Programs to directly control production of fresh fruit and vegetables are virtually nonexistent since limited storability of most of these commodities generally precludes stocks from building over time and oversupply problems may be intermittent from season to season. Countries faced with chronic oversupply problems of some commodities, such as the EC, may attempt to alleviate temporary surpluses through marketing programs. For a longer term solution, they may indirectly influence production through investment or tax policies providing producers with incentives to diversify production into other commodities, or compensate producers for the removal of trees or vines in the case of perennial crops.

Input Subsidies. Input subsidies help to expand output by reducing production costs. An input subsidy may be implemented either by fixing the costs of key production inputs (usually fertilizer, irrigation water, or fuel) in that country below market value, or by making direct payments to buyers in proportion to their use of the selected input. The governments of exporting countries may use various input subsidies to increase the competitiveness of

their producers in world markets to expand exports.²⁵ In the case of importing countries, input subsidies may be implemented to expand domestic output (perhaps to achieve self-sufficiency), or to compensate for the imposition of output taxes, as is sometimes the case in developing countries. Since input subsidies also curtail imports, they may be used to assist the development of an infant industry or sector as an alternative to imposing tariffs or quotas on imports (31).

The use of input subsidies to assist fruit and vegetable production is most frequent in countries which produce these commodities primarily for export, although producers in most countries do receive some degree of benefit from input subsidies. In the United States, California fruit and vegetable producers benefit from subsidized irrigation water provided through the Central Valley Project of the U.S. Bureau of Reclamation. Some growers have also benefited from subsidized long-term credit programs through USDA's Farmers Home Administration. Chilean fruit and vegetable producers benefit from preferences allocated to them by an irrigation law enacted in 1986 and from deferred payment of tariffs for up to 7 years on imported capital equipment which is valued over \$5,000 and used in export development and production (45, 67). The Mexican government has also assisted fruit and vegetable producers through input subsidies on fertilizer, seeds, herbicides, water rates, diesel fuel, and insurance (67). However, the subsidies on fertilizer, diesel, and water have recently been reduced in response to current economic reforms, and are in the process of being phased out. The EC's CAP does not provide for direct input subsidies, but they are sometimes paid by individual member countries. For example, Spain subsidizes irrigation in some areas.

Marketing Assistance. Various marketing assistance mechanisms are used to assist and regulate producers in marketing their commodities. Marketing programs may be targeted toward domestic or international marketing activities. Those which apply toward domestic marketing may have a direct or indirect effect on trade depending on whether the program activities provide domestic producers with price advantages unattainable by importers, or unfairly constrain imports. In the United States, Federal marketing orders and agreements are used to assist the orderly marketing of a variety of fresh fruits and vegetables. In Canada, marketing boards provide a similar function.

United States. Federal law permits formation of marketing orders for fruit and vegetables in the United States. Marketing orders serve to provide for more orderly domestic marketing of fresh fruits and vegetables through the establishment of grades and standards and standardized packaging, to prevent unreasonable fluctuations in supplies and prices, and to raise prices for farmers.²⁶ These orders exist primarily for first handlers of fruit and

²⁵ Although production subsidies used in exporting countries are not trade policies per se, they are sometimes referred to as "implicit export subsidies" because they may have significant consequences for international trade through enhancing the competitive advantage of producers in any one country relative to producers in other exporting countries (31).

²⁶ For a more complete discussion of the formation, economics, and functions of Federal marketing orders in the United States, see (50, 57, 58, 59, 63).

vegetables. Out of a total 44 Federal marketing orders currently in existence for various specialty crops, 36 are in effect for fruit and vegetables (table 38).

The price-enhancing function of most marketing orders and their function as barriers to trade are obscure. Categories of activities permitted under Federal marketing order programs for fruit and vegetables include quantity control, quality control, and market support. A critical consideration in evaluating the effects of marketing orders as barriers to trade is the degree of competitive advantage received by domestic producers of commodities covered by orders relative to foreign producers exporting to the United States. This advantage would be received by an order's ability to enhance prices received by U.S. producers, since funding for the administration and other operating expenses incurred in implementing marketing order provisions is obtained through grower assessments and not Federal budget outlays.

The potential for price enhancement is greatest under orders maintaining quantity control measures. These include measures that restrict volume, such as producer allotments, market allocation, and reserve pools, or measures which regulate market flows, such as handler prorates and shipping holidays. Price enhancement benefits may also be received by producers under marketing orders with quality control provisions, such as regulations on grades, size, weight, and color.²⁷ However, while marketing orders may provide the potential for short-term price enhancement benefits for U.S. producers, there is a lack of measurable evidence suggesting marketing orders directly subsidize U.S. producers and preclude imports from also attaining these benefits.

European Community. The EC's CAP promotes the development of producer marketing organizations to increase efficiency of the fresh fruit and vegetable sector by providing financial encouragement for their development. Organizations are allowed to undertake certain important functions, such as the presentation of fresh produce for withdrawal, and growers who wish to enter into the withdrawal program must be members of a recognized organization before they are eligible to receive compensation from EC funds. To be officially recognized by national and Community authorities, producer organizations must (1) promote supply concentration and price regularization at the producer level, (2) provide members with the technical means to pack and market products, (3) sell virtually all of its members' production, (4) adopt and apply rules to improve quality and control supply, and (5) collect supply information (2).

²⁷ The quality control provisions of U.S. marketing orders have been a source of contention for several countries producing fruit and vegetables for export to U.S. markets, since imports of 18 specified commodities must also comply with the same or comparable requirements during the period the order is in effect. The most notable of these situations is the case brought forth by Mexican tomato producers that the U.S. marketing order quality control provisions for Florida tomatoes were discriminatory and provided Florida producers with a competitive advantage. For a more complete discussion of this situation, see (10). More recently, Chilean grape producers made similar allegations regarding the quality provisions of the grape marketing order, which are also applied to imports.

Table 38--Federal marketing orders and agreements for fruits and vegetables

Area and commodity	Type of provisions						
	Grade	Size	Pack and container	Flow to market	Market allocation pool	Reserve allotments	Research and development Advertising
Vegetables:							
Idaho and Eastern Oregon potatoes	X	X	X				
Washington potatoes	X	X	Pack				X
Oregon and California potatoes	X	X	Pack				X
Colorado potatoes	X	X	X				
Maine potatoes	X	X	X				
Virginia and North Carolina potatoes	X	X					
Idaho and Oregon onions	X	X	X	1/			X
South Texas onions	X	X	X	1/			X
Texas Valley tomatoes	X	X	X				X
Florida tomatoes	X	X	X				X
Florida celery	X	X	X	X		X	X
South Texas lettuce	X	X	X	X	X		X
South Texas melons	X	X	X				X
Fruit:							
Florida citrus	X	X	2/	1/			X
Texas oranges and grapefruit	X	X	X				X
California and Arizona navel oranges		X		X			X
California and Arizona valencia oranges		X		X			X
California and Arizona lemons		X		X			X
Florida limes	X	X	X	X	X		X
Florida avocados	X	X	X	2/			X
California nectarines	X	X	X				X
California pears, plums, and peaches	X	X	X				X
Georgia peaches	X	X	X				X
Colorado peaches	X	X					X
California kiwifruit	X	X	X				X
Washington peaches	X	X	X				X
Washington apricots	X	X	X				X
Washington cherries	X	X	X				X
Washington and Oregon fresh prunes	X	X	X				X
California desert grapes	X	X	X	1/			X
California Tokay grapes	X	X	X	X			X
Oregon, Washington and California winter pears	X	X	X				X
Hawaii papayas	X	X	X				X
10 States - cranberries	3/	3/				X	X
Washington and Oregon Bartlett pears	X	X	X				X
California olives	X	X					X

1/ Shipping holiday.

2/ Provision for export only.

3/ Applies to only cranberries withheld.

Source: (58).

Canada. Marketing boards are an integral part of Canadian farm policy for many agricultural commodities including fruits and vegetables. There are marketing boards for various fruits and vegetables, at both the national and provincial level. The objectives of individual boards and the priority given to them differ by commodity, but basic objectives include (1) stabilizing farm prices in accordance with production costs, (2) assuring supply continuity, and (3) stimulating a more efficient marketing system.

Canadian marketing boards for fruit and vegetables primarily provide producers of certain commodities with a means to collectively bargain with processors. Some marketing boards exist for negotiating prices, grades, and the terms and conditions of sale with processors of certain commodities, including potatoes, tomatoes, green and wax beans, lima beans, carrots, and wine grapes among others. Others establish the prices for which certain commodities (including apples, asparagus, table grapes, potatoes, peaches, pears, plums, cherries, and greenhouse tomatoes and cucumbers) are sold on fresh markets. Most marketing boards are also involved in promotional activities to increase domestic consumption and exports.

Trade Policies of the Major Market Players

As international trade in fresh fruit and vegetables has expanded, the use of various trade policies to either increase the competitiveness of exports on world markets and expand exports or to protect domestic fruit and vegetable industries against imports has become more prevalent. The EC's CAP regime for fresh fruit and vegetables provides export subsidies in the form of export rebates to encourage the export of surplus commodities, while tariffs and countervailing duties are used to protect producer prices and the internal price support system from imports during primary production seasons. Most other major exporting countries, including the United States, provide some assistance for export market development. Tariffs are the most commonly used import barrier in the major importing countries.

Export Policies. As the scope of fresh fruit and vegetable trade has broadened, most of the major exporting countries have implemented export policies to help their producers compete in foreign markets. Export policies for fresh fruit and vegetables may include export subsidies, market development programs, and export credit policies. In some countries, such as Canada, exports of some fresh fruit and vegetables are the responsibility of marketing boards, which provide a collective means in setting the prices received by producers for exporting commodities. Other major exporting countries, primarily developing countries, manage exchange rates to increase the attractiveness of exports, while making imports less lucrative. Many developed countries have signed bilateral trading arrangements with developing countries to show good faith and establish a source of supply for commodities not domestically produced; for example, bananas and pineapples.

Export Subsidies. Export subsidies come in many forms, including fixed or ad valorem payments or variable payments on volumes exported, in-kind payments, or cash, which may be applied globally to all exports or be targeted toward a specific commodity. Export subsidies generally provide producers with an incentive to expand production for export. While the welfare effects of export subsidies are complex, producers generally gain from the increased volume of exports at subsidized prices, consumers lose as domestic prices are raised relative to world prices, taxpayers lose from the increase in national government budget outlays used to compensate exporters, and there is a net

efficiency loss to society as resources are diverted from other uses into the production of the subsidized commodity.

Export refunds are a widely used tool in the EC intervention scheme for disposing of surplus fruit and vegetables. Refunds vary seasonally and according to export destination, but are based where possible on the relative prices received in the Community and in third-country export markets. Export refunds have ranged between 8 and 17 percent of total EC intervention expenditures for fresh fruit and vegetables since 1983 (see table 37).

Chile also offers a 10-percent drawback, or rebate, on exports of nontraditional products (defined as those products for which exports averaged \$2.5 million or less in 1983/84) valued at up to \$7.5 million per year, and a 5-percent drawback on exports valued at \$7.5-\$11.25 million. Fresh fruit and vegetable exports eligible for the drawback in 1990 include apricots and cherries (45, 64, 67).

Some developing countries also use export subsidies as a means to encourage production and export of selected commodities that are major contributors to the countries' export revenues. For example, Costa Rica, the fourth largest banana exporter, provides producers with export subsidies along with various other forms of assistance. In Colombia, where bananas are the second largest agricultural export, producers receive export assistance through indirect tax rebates. Banana producers in Honduras may also receive indirect tax rebates, and exporters are receiving financing made available through the U.S. Agency for International Development via private banks and other institutions.

Market Development Programs. Government-funded export promotion programs are usually intended to expand demand in a foreign market(s) for a country's exports. Compensation is usually provided only for such activities as advertising, public relations, exhibits, and other activities undertaken to promote a country's output. For these programs to be effective, the commodities promoted must be differentiated enough from those of other countries so the consumer can form a mental association between the country-of-origin and the product. In addition, the exporter must hold a large enough market position so that any increase in demand for a product created by the promotion can be met by increased exports from that country (31).

In the United States, the Cooperator and the Targeted Export Assistance (TEA) programs administered by USDA's Foreign Agricultural Service (FAS) provide some export assistance for selected fresh fruits among other commodities.²⁸ The Cooperator program is oriented toward providing assistance for the development of long-term markets for U.S. agricultural products. To obtain compensation for foreign market development activities, potential cooperators must demonstrate how their proposed activities will overcome or alleviate trade constraints for each proposed target commodity and market. Cooperator program expenditures are not available by commodity. However, out of \$132.16 million in total expenditures between 1986 and 1989, 5.7 percent was used for the development of foreign markets for horticultural and tropical products (1). Cooperator program expenditures for horticultural and tropical products have declined since 1986, when export promotions under the TEA program were authorized.

²⁸ Several States, such as California, also fund similar market development programs for expanding exports of commodities important to those States.

Authorized under Section 1124 of the Food Security Act of 1985, TEA is a foreign market development program for specific U.S. commodities hurt by foreign subsidies, import quotas, or other unfair trade practices. The program is intended to help maintain or expand U.S. export markets and, in some cases, to reverse declining export trends.

TEA is not an export price subsidy program. Rather, participants in the program are reimbursed for part of the expenses incurred in their market development activities, such as advertising and promotion activities. Compensation is made with generic commodity certificates issued by the Commodity Credit Corporation (CCC), which can either be redeemed for commodities held by the CCC, or sold. Of the \$200 million allocated for TEA in fiscal 1990, agreements totaling \$28.75 million were signed for the development of foreign markets for various fresh fruits including table grapes, citrus fruits, apples, plums, peaches, nectarines, sweet cherries, pears, and strawberries (table 39). The TEA program is due to expire in 1990 and it is not yet known whether new farm legislation will extend the program.

Several other major exporting countries also engage in foreign market development activities for fresh fruits and vegetables, including the EC, Canada, and various developing countries which produce fresh fruits and vegetables for export, such as Chile and Colombia.

Table 39--Targeted Export Assistance Program allocations, fresh and processed fruit and vegetables, United States, fiscal 1986-90

Commodity	1986	1987	1988	1989	1990
<u>1,000 dollars</u>					
Citrus	13,099	17,500	17,500	16,600	18,850
Raisins	6,300	9,800	9,800	10,700	12,500
Wine, grape	4,800	2,600	3,000	7,000	9,000
Prunes	4,000	4,500	5,500	5,800	7,500
Potatoes, fresh and frozen	2,000	2,550	2,400	4,700	4,800
Apples, fresh	1,400	1,500	2,000	2,850	3,800
Cling peaches and fruit cocktail	2,500	5,600	5,700	4,700	3,500
Grapes, table	350	450	7,500	1,850	2,300
Corn, sweet, processed	0	0	1,500	1,250	1,250
Cherries, sweet	0	120	450	800	1,000
Pears, fresh	300	400	500	800	900
Kiwifruit, fresh	0	500	500	1,000	900
Grapes, concord and niagara product	0	0	0	1,500	700
Strawberries, fresh and frozen	0	0	0	0	500
Fruit, fresh stone 1/	0	0	0	0	500
Cherries, tart, processed	0	0	0	500	400
Avocados, fresh	0	420	450	650	0
Total fruit and vegetables	34,749	45,940	56,800	60,700	68,400
Other commodities	75,247	64,060	53,200	139,300	131,600
Total TEA allocations	109,996	110,000	110,000	200,000	200,000

1/ Includes fresh plums, peaches, nectarines, and Bartlett pears.

Source: Foreign Agricultural Service, U.S. Department of Agriculture.

Export Taxes. Export taxes provide an incentive to make domestic rather than foreign sales, thereby pushing domestic prices below international prices. They produce an effect opposite to import tariffs and export subsidies, which elevate domestic prices above international prices. A country may levy a tax on exports to generate additional government revenue and to protect domestic consumers from having to pay relatively higher international prices. Export taxes place a burden on domestic producers by discouraging exports and limiting the price they may receive. However, such taxes provide an attractive means for governments to obtain tax revenues other than collecting income or excise taxes (31). A government may attempt to offset the export-dampening effect of the export tax by providing input subsidies to producers.

Export taxes may be levied on all exports or may be assessed on only selected commodities. Export taxes are not a widely used policy tool for fresh fruit and vegetables. In the past, the Mexican government has levied export taxes on several of its primary exports, including tomatoes, and also required exporters to obtain export permits (67). However, these policies are not now in effect. Although not a major fresh fruit and vegetable exporter, Argentina also maintains an export tax scheme for fresh fruit exports.

Exchange Rate Management. Some governments either directly or indirectly influence the level of imports and exports in their countries through exchange rate policies. In an exporting country, overvaluation of the currency will curtail exports as export prices rise relative to import prices valued in the currencies of importing countries. Conversely, an undervalued currency will help increase exports as importers perceive imports as being less expensive when valued in their own domestic currencies. While currency overvaluation has an effect on producers similar to an export tax, the effects of undervaluation mirror export subsidies.

Of the major fresh fruit and vegetable exporters, only Chile has used a progressive system of currency devaluation to explicitly promote exports (67). This system was first introduced in 1985 during restructuring of Chile's economic policy aimed toward reducing reliance on foreign sources of finance by stimulating private investment in the production of export-oriented commodities (45).

Bilateral Trading Agreements. Bilateral trading agreements are accords for preferential treatment between trading partners. These arrangements take many forms, but free-trade agreements, voluntary restraint agreements, and several other variations of regional trading agreements are most widely used for trade in fresh fruit and vegetables.

The negotiation of free-trade agreements (FTAs) between countries has become prevalent in the past decade as countries seek to establish firm and continuous markets for their products while minimizing competition from other exporters. Terms of an FTA usually provide for the immediate removal, or gradual reduction, of all or most import barriers between two countries. While an FTA fosters a competitive environment between the two signatory countries, the competitiveness of other countries exporting to the signatory market may be reduced. Although not specifically targeted toward fruit and vegetables, two agreements important for U.S. fresh fruit and vegetable trade are with Canada and Israel. Both FTAs provide for gradual reduction in tariff rates for fresh fruit and vegetables between the signatory countries.

Voluntary export restraint agreements (VERAs) are accords between trading partners in which the exporting country agrees to limit exports of a particular commodity. VERAs often apply to one commodity, usually a commodity for which imports can be large contributors to an already imbalanced domestic supply situation. These agreements are often approached as an amicable way of reducing imports of a particular commodity without increasing tariffs or imposing quotas. Of the major fresh fruit and vegetable trading countries, the EC has negotiated VERAs for apples with several major apple exporting countries, primarily in the Southern Hemisphere, because of the chronic apple oversupply problem in the Community.

Several other regional agreements are important determinants of world trade patterns for fresh fruits and vegetables. These include the U.S. duty-free status given to the Caribbean countries under the Caribbean Basin Initiative (CBI) and the EC agreement for lower EC tariff rates on imports from the 65 African, Caribbean, and Pacific (ACP) countries which signed the third Lomé Convention in December 1984.

International Commodity Agreements. International commodity agreements typically involve all countries having a significant interest in importing or exporting a specific commodity. With the objective of stabilizing prices, most of these agreements cover commodities produced in very limited production regions where supply fluctuations can cause immediate, extreme price variations. These agreements are usually supply management schemes financed by member countries, which provide for buffer stocks and export quotas to regulate supply and maintain prices within established levels.

International commodity agreements are not common for fresh fruit and vegetables since the production of most is widespread and perishability usually precludes the building of surplus stocks over long periods. Bananas partially meet the criteria for the formation of an international commodity agreement because they are produced in limited production regions and have volatile prices. Although efforts to negotiate an international commodity agreement for bananas within the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Conference on Trade and Development (UNCTAD) have been underway since 1976, an agreement has not been adopted (38). There is a Union of Banana Exporting Countries (UPEB) which has been successful in achieving an agreement for member countries to impose export taxes on bananas. The UPEB is also attempting to implement a price stabilization scheme (54).

Import Policies. Import policies are border measures used to directly constrain or monitor imports. These policies include tariffs and other similar measures, such as excise taxes, and nontariff measures, such as import quotas, licensing, and prohibition. Sanitary and phytosanitary regulations can also impede free trade. Some import policies, such as tariffs, are fairly obvious in their effect on trade, while others, such as phytosanitary regulations, are less transparent. While import quotas are not commonly used for fresh fruit and vegetables, tariffs have been a cornerstone in the protective trade policies of most countries for many years. As countries have worked to reduce or eliminate tariffs over the years, the use of several less transparent nontariff measures has become more common.

The mix of import policies used by the governments of the major importing countries varies widely. In the United States, for example, fresh fruit and vegetable imports are subject to seasonal tariffs. In the EC, fresh fruit and

vegetable imports are subject to the imposition of countervailing duties in addition to seasonal tariffs. On the other hand, barriers to fresh fruit and vegetable imports into Japan and other Pacific Rim countries can be more restrictive. In addition to assessing often prohibitive tariff rates, these countries can effectively curtail imports through restrictive licensing requirements, quotas, phytosanitary controls, complicated distribution systems, or monopolies over imports (51).

Import Tariffs. Tariffs represent an additional cost to imports, which can sway competitive advantage in the favor of domestic producers if they are applied at a high enough level. An import tariff is a tax assessed on a commodity as it enters a foreign country both to raise public revenues and to increase the price of an import relative to international market prices. Tariffs are either fixed at a selected rate per unit, which remains unchanged regardless of the quantity of the commodity imported, or are assessed at an ad valorem rate established as a percentage of the international market prices of the targeted commodity.

The economic effect of a tariff depends on a country's ability to influence world market prices through its import volumes. In the case of a fixed rate tariff applied by a small importing country, the decrease in import volume generated by the tariff causes the price for the imported commodity to rise and consumption shifts to domestically produced supplies. This stimulates price increases for the domestic commodity, which results in declining consumption of commodities from both sources. As domestic production increases at the higher price level, imports fall and consumption declines. This reduces the gross revenue earned by exporters and increases the returns to domestic suppliers as imports are squeezed out.

The economic effect of a fixed rate tariff applied by a country importing large volumes of a commodity is much the same. However, if large enough, the additional supply of the commodity on world markets generated by the decline in imports may also depress world prices for the commodity.

The economic effects of applying an ad valorem tariff are basically the same as with a fixed rate tariff, except the actual tax is based on the world price of the target commodity. An increase (decrease) in the world market price will increase (decrease) the ad valorem tariff rate, thus always keeping domestic prices higher than world market prices.

In developed countries, the justification most often used for the application of import tariffs is for the protection of domestic producers. Thus, most of the major fresh fruit and vegetable importing countries, the EC, United States, Japan, and Canada, assess seasonal tariffs on imports of these commodities, with the highest rates applying during domestic production seasons.

Tariff rates widely vary among countries and commodities. A comparison of the ad valorem equivalent tariff rates for the primary fresh fruit and vegetable imports into the major importing countries indicates that tariffs are usually highest in the EC and Japan, and are somewhat lower in the United States and Canada (app. tables 4-7). The relatively higher tariffs applied in the EC on some commodities keep imports from benefiting from the internal price support system. In Japan, as well as several other Pacific Rim countries, tariff rates are often strongly influenced by powerful farm and producer groups which lobby on the basis that any reduction would hurt domestic producers.

Most major fresh fruit and vegetable importers give preferential treatment to selected trading partners by assessing lower tariff rates on imports from those countries, either through Generalized System of Preference (GSP) programs, or as a result of some type of bilateral or multilateral trade agreement. Most developed countries have instituted GSP programs to provide preferential treatment to developing countries. GSP programs generally provide developing countries with reduced duty rates or duty-free access to markets in developed countries while applying relatively higher rates on imports from other developed countries under the most favored nation (MFN) rate scheme of the GATT. Unlike the MFN, GSP programs are unilaterally implemented by developed countries and are not specifically addressed in GATT rules and principles other than the GATT waiver which recognizes the right of countries to implement such programs.²⁹

All of the major fresh fruit and vegetable importing countries also have trade preference agreements with countries which receive preferential duty rates. For example, countries covered under the CBI receive duty-free status from the United States, while tariffs assessed on U.S. imports from Canada and Israel are being gradually reduced under free-trade agreements. Several major fresh fruit and vegetable producing countries and regions have established accords for preferential duty rates with the EC, including the Lomé countries, the Maghreb countries (Morocco, Algeria, Tunisia), the Mashraq countries (Egypt, Jordan, Syria), and Turkey, Malta, Cyprus, Israel, and Lebanon (14).

Antidumping Measures and Countervailing Duties. Domestic producer prices may be indirectly supported through antidumping measures and countervailing duties.³⁰ The GATT has established antidumping provisions which provide substantive and procedural standards for countries seeking restitution from foreign exporters found to be dumping in domestic markets (24). Countries which are confirmed to have engaged in dumping activities are generally required to pay antidumping duties. These duties are set equal to the difference between the selling price in the importing country and the normal fair market value of the commodity in the exporting country.

Countervailing duties are additional levies imposed on imports of commodities from exporting countries that are causing or threatening to cause material injury to a domestic industry as a result of subsidization practices by the government of the export country. The additional duty increases the price of the import with the intent of shifting demand back to the domestically produced commodity. Countervailing duties are permitted under GATT rules.

²⁹ The underlying premise of GSP is to provide developing countries with a margin of preference equal to the MFN duty rate applied to developed countries, thus rendering imports from developing countries more competitive. However, the benefits attainable by developing countries covered by GSP schemes have not been fully realized because of the restrictions imposed by many developed countries on country coverage, commodity coverage, degree of tariff cuts, safeguards against the possibility of domestic market interference, and rules of origin. Moreover, GSP programs are not standardized among countries (37).

³⁰ Dumping is defined as the sale of a commodity in a foreign market at less than its fair market value (29).

However, the calculation of the amount of restitution that must be paid is a major source of controversy between countries.³¹

The United States has been involved in various antidumping and countervailing duty cases for fresh fruit and vegetables, both as complainant and as defendant. Most of these cases have concerned trade with Canada and Mexico because of the close proximity of these markets, and have involved such commodities as U.S. imports of Mexican winter vegetables, Canadian potatoes, and red raspberries, and Canadian imports of U.S. potatoes and apples (8).

The EC intervention system for fresh fruit and vegetables also provides for the imposition of additional duties, referred to as countervailing duties, on imports of commodities covered under its reference price system. Countervailing duties are assessed on subsequent imports of a commodity if the entry price for at least 30 percent of imports from a given third country falls below the reference price by 0.6 ECU/100 kg or more for a specified period. The duty, set equal to the difference between the reference price and the average of the last two entry prices, remains in effect until the entry price equals or exceeds the reference price for 2 consecutive days or when no prices have been recorded in EC markets for the commodity for 6 consecutive days (2). Countervailing duties frequently have been applied to tomato imports into the EC (14).

Import Quotas, Licenses, and Embargoes. Import quotas are the most commonly used method for directly restricting imports of many commodities, but they are not typically applied to fresh fruit and vegetable imports by the major importing countries, with the exception of Japan. Japan has maintained quotas on oranges, tangerines, grapefruit, lemons, limes, grapes, and apples from all sources at some stage (6). As many of these quotas have been removed over time, the Japanese have typically replaced them with tariffs. In the EC, quantitative import restrictions can be applied if imports cause serious market disruptions and each member also retains the option to unilaterally impose quotas. However, quotas have been infrequently applied to fresh fruit and vegetables in the EC.

Importers in Japan and Mexico must be licensed to import fresh fruit and vegetables. Import licenses may be selectively granted at the discretion of the government and, while they provide indirect assistance to domestic producers, import licenses can restrict trade. Although Mexico is currently not a major importer of fresh fruit and vegetables, its licensing requirements have often been restrictive and arbitrary and considered a significant impediment to expanding U.S. exports to that country (37).

Embargoes and direct prohibition of imports are usually instituted for various political reasons. While embargoes are usually instituted to retaliate, some governments place direct prohibitions on selected commodities for specified periods to ease balance of payments problems (54). While none of the major fresh fruit and vegetable importers generally restrict imports for these reasons, most prohibit the importation of certain commodities from specified areas due to phytosanitary concerns. These concerns are discussed below.

³¹ See (10) for a discussion of the controversy over the different methods that may be employed.

Marketing Regulations. The domestic marketing regulations of importing countries can be perceived as barriers to trade if importers have difficulty conforming with standard procedures or if marketing regulations increase uncertainties for importers. The potential impact of these policies on curtailing imports is often difficult, if not impossible, to quantify.

In the United States, for example, Federal marketing orders are sometimes regarded as import barriers by countries exporting to the United States. Section 608e of the Agricultural Adjustment Act authorizing marketing orders generally states that imports must meet the same standards as the domestic produce item covered under the order. These standards, which may include size, color, and weight specifications, at times may be restrictive barriers to imports if imports cannot meet the standards. However, the standards are important in providing some uniformity to produce sold in U.S. markets for facilitating marketing functions and the price-setting function.

Canada also imposes several marketing restrictions that present impediments to exporting to that country. These include the Canadian ban on consignment sales reinstituted in 1988 and the need to obtain waivers for bulk produce shipments to Canada when domestic supplies are available. Consignment and bulk produce sales are common marketing practices used by the fresh fruit and vegetable industry in the United States and in several other countries. The Canadian restriction on consignment sales forces foreign shippers to prearrange buyers in Canada who purchase produce on a firm-price basis. This precludes imports from being diverted to other Canadian markets offering higher prices.

The waiver requirement for bulk produce shipments also raises marketing uncertainties for exporters to Canada. A waiver may be allowed for exceptions to a normal quality or container requirement only for the express purpose of repacking and/or processing. The necessity of shipping smaller size packages for all other uses increases both transportation and packaging costs for exporters, potentially reducing the competitiveness of foreign produce in Canadian markets. The waiver requirement particularly affects U.S. exporters since the heavy marketing season for U.S. produce largely overlaps that in Canada.

Phytosanitary Regulations. Countries may specify phytosanitary regulations to minimize the threat of insect or disease infestation of domestic production areas. These regulations vary by country, but most countries currently maintain stringent inspection programs, especially for fresh produce.

Phytosanitary regulations serve the basically legitimate purpose of protecting consumer and producer health by protecting the food supply from new pests. However, they can be unjustified barriers to trade if not founded on legitimate scientific evidence, or if they place greater controls on imports than those applied to domestic commodities. Phytosanitary regulations may also complicate trade patterns and represent an additional source of risk to exporters because each country determines its own standards. A system harmonized among all countries does not exist, but is a topic for negotiations

in the GATT.³² When illegitimately applied, these regulations can increase costs to exporters for additional inspections, transactions costs, and delays in the movement of commodities (54).

Other Import Policies. Other import policies and regulations applied to fresh fruit and vegetables include packaging and labeling regulations that specify container sizes, packaging, and general information required to be disclosed on product labels or packaging, harbor fees and marine freight taxes, and brokerage and customs fees. While each of these policies and regulations can function as trade impediments, the degree to which they restrict imports is difficult to quantify.

Wine

A plethora of government assistance and trade policies affect world wine trade patterns. However, the degree and orientation of government assistance varies considerably among the major wine producing and exporting countries. Since the top four wine exporting and importing countries are EC members, the policies set forth under the CAP wine regime dominate the policy environment surrounding competition in the major importing countries (43). The EC wine regime reflects the complexity of dealing with chronic oversupply and declining consumption for nonpremium table wine. Emphasis centers on supply control, although some support for expanding demand is also provided. In contrast, U.S. policies emphasize expanding export demand, leaving market forces to control supply.

Since wine is an alcoholic beverage, domestic sales are often regulated by complex laws and imports are usually subject to excise taxes in addition to tariffs. Trade patterns are also heavily influenced by the relative exchange rates between countries.

Domestic Policies of the Major Market Players

While the United States and several other large wine producing countries provide little formal assistance to wine producers in the form of price support and income programs, supply control measures, or domestic marketing assistance, producers in the EC are provided with a full range of programs targeted toward stabilizing prices and promoting balanced market supply conditions.

Price Support and Income Programs. There are no direct government price support or income programs in effect for U.S. wine producers. However, development incentives for increasing area planted to grapes through special farm tax provisions have been provided (12).

³² The focus of negotiations in this area is on attempting to get all countries to use scientific methods of establishing their standards, not the negotiation of identical standards for all countries. See (9) for further discussion on harmonizing sanitary and phytosanitary regulations through GATT negotiations. For a bibliography on Federal and State regulations for food product safety and quality in the United States, see (15).

The EC wine regime has been extensively modified since its basic regulations were originally drafted in 1962, first in 1979 and again in 1987.³³ As it now stands, the main elements in the wine regime that provide some form of price and income support to producers include common prices; aids for storage, distillation of wine and byproducts to reduce supply and raise prices, and for the use of grape must; buying-in of alcohol from compulsory distillation; and export refunds.

Guide and threshold prices are set to ensure price and quality stability of red and white table wines in EC markets without creating surplus stocks (2). Guide prices, set annually for each wine type on the basis of average prices over the past 2 marketing years and on price trends in the current marketing year, are used to calculate threshold prices. The threshold price in turn, is used to calculate the buying-in price at which internal market support programs are activated. The purpose of the threshold price is to provide minimum guaranteed prices to eligible producers and to ensure market equilibrium (2).

In order to support market prices, the EC uses a system of private storage aids to induce producers to remove surplus table wine from the market. Long-term storage contracts may be entered into when estimates for a particular type of wine indicate that available supplies will exceed consumption by at least 4 months. Producers are required to sign 9-month contracts, which have to be concluded between December 16 and February 15 in order to receive the aid. The amount of aid available is calculated to cover technical storage costs and interest charges (2). A similar program also exists for various forms of grape must.

If private storage aids prove insufficient in alleviating an oversupply situation, the EC may implement one of six distillation programs.³⁴ These are preventive distillation, support distillation, long-term storage contract distillation, compulsory distillation, byproduct distillation, and distillation of poor quality or surplus wine. Each of these programs is designed to correct market imbalances of various degrees. For example, the preventive distillation program, one of three voluntary programs, may be activated if wine stocks at the beginning of the marketing year are so high that private storage aid alone is not enough to correct the oversupply situation or improve quality. On the other hand, the compulsory distillation program may be imposed if (1) supplies at the beginning of the marketing year exceed the normal level of consumption by 4 months supply, (2) production

³³ The EC wine regime covers unfermented grape juice, fermenting or fermented grape must, wine of fresh grapes, fresh grapes other than table grapes, wine vinegar, and any other byproducts obtained from winemaking. The main product covered in the regime is table wine. Table wine is defined as wine other than quality wine produced in specified regions from approved wine varieties, with an alcohol content ranging between 8.5 and 15 percent volume, which can be raised to 17 percent volume for certain wines (2). The regime also contains special provisions for quality wines and recognizes differences between grape production on various categories of land (hillside, plains, and others) (44).

³⁴ Distillates sold into intervention may be disposed of as neutral and denatured alcohol on domestic and export markets, or in other forms on export markets.

exceeds normal consumption by more than 9 percent, or (3) the weighted average of representative prices for all defined wine types remains below 82 percent of the guide price from the beginning of the marketing year (2).

The buying-in price sets the minimum price paid to wine producers by distillers who, in turn, receive distillation aid from the intervention agencies in member states if the alcohol strength of the distillate exceeds 52 percent. Buying-in prices vary by program, but the overall objective of the distillation programs is to guarantee producers an average minimum price of 82 percent of the guide price for all production. Minimum prices may also be set according to the type of table wine if the distillation programs prove ineffective in providing the necessary support (2).

Although variable from year to year, the support provided to EC wine producers in the form of intervention has escalated since 1986 (table 40). In 1988, total EC budgetary expenditures reached their highest level in 6 years, rising 93 percent from the previous year to 1.5 billion ECU. The increase was primarily due to a large expenditure for the buying-in of alcohol by member states under the compulsory distillation program, but expenditures for most other intervention programs were also higher.

Production Control Programs. Production control measures for wine in the EC include planting restrictions and government incentives to divert land from wine grapes. These policies are intended to help manage markets, or stabilize prices, by inducing structural changes needed to reduce output.

With some exceptions, the planting of new vineyards for the production of table wines in the EC was prohibited until August 31, 1990. In addition, special rights must be granted before replanting can occur on land where all vine stocks have been completely eliminated. These rules are applicable only in member states where total wine production exceeds 25,000 hectoliters per year and do not apply to areas where quality wines can be produced (2).

Some EC growers may receive premiums for abandoning planted wine grape area through a vineyard removal program. The objective is to reduce wine production by 25 million hectoliters (660.5 million gallons) by 1992 through the permanent removal of about 200,000 hectares (500,000 acres) of wine grapes (44). In addition, the EC may provide conversion premiums for planting better

Table 40--EC support expenditures for wine, 1983-88

Year	Export refunds	Intervention program							Total
		Private intervention storage	Distillation of wine	Compulsory distillation of byproducts	Aid for use of must	Buying-in from compulsory distillation	Deprec- iation of stocks	Other	
Million ECU									
1983	20.2	142.5	391.4	63.1	42.1	0.0	0.0	0.0	659.3
1984	18.6	135.6	852.4	88.6	126.6	.0	.0	.8	1,222.6
1985	18.9	87.6	599.0	65.3	148.2	1.5	.0	.9	921.5
1986	11.2	70.5	406.1	55.8	82.4	3.8	.0	.9	630.7
1987	20.4	57.2	508.0	91.4	112.8	7.0	.0	3.5	800.3
1988	43.5	85.5	627.5	96.9	98.1	446.2	145.7	2.1	1,545.5

Source: (17).

varieties or diverting land from wine grapes into other crops. Over the past 10 years, various vineyard conversion, restructuring, and abandonment programs have been used in Italy, Germany, and, more frequently, in France.

Input Subsidies. U.S. wine producers do not receive direct government assistance in the form of input subsidies. However, California wine producers may indirectly benefit from the irrigation subsidies that are received by California grape growers. Most California wine producers purchase some portion or all of their grape requirements in order to obtain the mix of varieties they need for blending.

The EC and member governments may provide interest subsidies on loans and matching fund capital grants to wine producers to assist in vineyard modernization, improvement in processing and storage facilities, and revitalization of rural areas (44).

Marketing Assistance. U.S. wine producers do not receive government assistance for domestic marketing activities. However, EC producers benefit from internal market promotion activities sponsored by the EC Commission in addition to export promotion activities. The cost of the promotion activities is regarded as intervention intended to stabilize agricultural markets (2).

Trade Policies of the Major Market Players

The EC promotes wine exports by providing the EC wine industry with export refunds and CAP expenditures for foreign market development. The United States also provides assistance for promoting U.S. wines in foreign markets through the TEA program. Both the United States and the EC collect import duties on wine imports, but the EC also requires importers to be licensed and maintains a reference price system for the imposition of countervailing duties. Wine exports from Bulgaria, the fourth largest exporter in 1988, are handled by state trading organizations reporting to the ministry of foreign trade.

Export Policies. Export policies used by the major wine exporting countries to promote exports include export subsidies in the form of export refunds and foreign market development assistance.

Export Subsidies. The EC provides wine producers with export refunds to narrow the gap between EC prices and lower world market prices, thus enhancing the ability of EC wine producers to compete in world markets. Refunds are set every 6 months and are standard across all wine producing countries within the Community, but may vary according to intended use or destination. Export refunds almost doubled between 1987 and 1988, reflecting the imbalance in the EC wine market and the need to encourage exports to help alleviate the internal oversupply problem (see table 40).

Several factors are considered in setting export refunds for wine: (1) the market situation in the EC, (2) world market prices, (3) transportation costs from EC markets to shipping ports within the Community, (4) the objective of the EC wine regime to ensure a balanced market, and (5) the advantages in avoiding EC market disruptions (2). Since January 1, 1980, the EC has required exporters to have export licenses for exports exceeding 30 hectoliters, or 3,000 kilograms, before they are eligible to claim refunds (2).

Market Development Programs. The United States provides TEA funds for the development of export markets for U.S. wines. TEA allocations for wine have more than tripled since the program was initiated in 1986, totaling \$9 million for fiscal 1990. The EC also sponsors foreign market development programs for its wine industry. These costs have likely escalated along with export refund expenditures.

Import Policies. As most of the major wine importing countries are also primary world producers and exporters, import tariffs are assessed to help protect domestic wine industries from import competition. In addition to import tariffs, the United States levies Federal excise taxes on selected wine imports, while the EC requires importers to be licensed and applies a complex system of reference prices for the assessment of additional "countervailing" duties. Each of the major importing countries also maintains trade preference agreements with selected small wine exporting countries, which provide for reduced duty rates.

Import Tariffs. Tariff rates assessed on wine imports by the major importing countries vary according to alcohol content and container size. In the United States, GSP tariff rates for grape wines, including sparkling wines, range between \$0.083-\$0.30 per liter (71). In addition, imports are subject to Federal excise taxes varying by alcohol content. EC tariff rates on wines range somewhat higher: 0.145-0.40 ECU per liter (approximately U.S.\$0.175-\$0.482 at U.S.\$1.00=0.83 ECU) (18). The EC may also assess duties on the added sugar content of selected imported wines if EC sugar prices are higher than world prices (2).

Reference Prices and Countervailing Duties. Like the fruit and vegetable industry, the EC wine industry is protected from the entry of low-priced imports under a reference price system. Reference prices, set annually for all wine products and grape must, are used to determine the imposition of countervailing duties. With certain exceptions noted below, countervailing duties are charged on wine imports when the import price falls below the reference price (less the customs duty). The duty is equal to the difference between the reference price and the actual import price (import price plus the ad valorem customs duty actually charged). The countervailing duty is changed whenever there are appreciable changes in import prices (2).

Certain countries which agree to respect the reference price system are exempt from the imposition of countervailing duties on imports of selected wines. These include imports of red and rose wines, selected white wines, liqueurs, and fortified wine for distillation from 16 countries including Algeria, Argentina, Israel, Morocco, Romania, Bulgaria, Hungary, Chile, Austria, Australia, South Africa, and Tunisia, among others. Countries not agreeing to respect the reference price system, including the United States, are not exempt from countervailing duties (2).

Trade Preference Agreements. Both the United States and the EC maintain trade preference agreements with other smaller wine exporters, providing concessions on duty rates normally applied. The United States allows duty-free entry for imports of selected wines from Israel and the CBI countries, and assesses reduced rates on selected other wine imports from Israel. The EC also has special import arrangements with Cyprus, Algeria, Morocco, Tunisia, and Yugoslavia, providing reduced rates on selected wine imports.

Other Import Policies. Other policies used by the major importing countries affecting wine imports include labeling regulations and restrictions on acceptable additives. The degree to which these policies restrict markets from wine imports and protect domestic producers is difficult to quantify.

Tropical Beverages

Coffee, tea, and cocoa exports provide a major source of export revenue for the major producing countries, all of which are developing countries. Because of the importance of tropical beverages to the economies of most of these countries, governments usually play a large role in production and marketing. Government policies vary by country and often from year to year depending on domestic economic conditions and world market conditions. Many governments administer prices and tax exports while subsidizing production. Government spending and transportation and storage availability also affect price and profitability of production. The net effect of government policies on producers in most countries producing tropical beverages appears to be taxation; that is, the effect of policies that tax production and export of these commodities tends to outweigh policies that subsidize or support producers (40).

The primary importing countries tend to erect few barriers against tropical beverage imports other than import tariffs, since there is little domestic production. Many importing countries allow duty-free entry of these commodities in their primary form, that is, green coffee or cocoa beans, as imports are strictly for processing purposes. However, in order to protect their national processing industries, governments may apply progressively higher tariffs to imports of products further along the processing chain; for example, roasted soluble coffee and chocolate and cocoa powder. This system of tariff escalation may have inhibited growth of processing industries in countries producing the raw material.³⁵

Wide fluctuations in world supplies and prices for coffee and cocoa from year to year have led to the formation of international commodity agreements for these commodities. However, these agreements have met with varying degrees of success in stabilizing prices and trade.

Cocoa

The domestic policies of many cocoa bean exporting countries, primarily in Africa, are heavily oriented toward taxing production, fixing or guaranteeing grower prices, and maintaining government control of all stages of marketing. Other major exporters, such as Brazil and Malaysia, maintain a relatively free market system. In all, government policies heavily influence the prices received by producers in the major exporting countries, often negatively. Empirical analysis shows that, in 1986, cocoa producers in each of the major exporting countries apparently received half or less of the international cocoa price due to high levels of government taxation and overvalued exchange rates (40).

³⁵ See (30) for further discussion on tariff escalation and the effects on developing countries.

Cocoa bean imports into the major importing countries are relatively unconstrained, but tariffs on processed cocoa products can be relatively high in order to protect domestic processing industries.

Domestic Policies of the Major Market Players. In Ghana, Côte d'Ivoire, and many other African countries, governments play an integral role in the production, marketing, and pricing of cocoa, not only because cocoa is an important contributor to the economies of these countries, but also because production is spread across a large number of small producers, or shareholders. The marketing systems adopted by most of these countries are legacies of the colonial era of the countries in which they operate, although they have considerably evolved under present day regimes (20). In general, two systems are used: (1) marketing boards with fixed producer prices and a centralized marketing system, and (2) caisse de stabilisation with guaranteed minimum producer prices and fixed export reference prices. In areas where landholders tend to be larger, cocoa may be marketed under a free-market system (20). Of the top five cocoa bean exporting countries, Ghana uses the marketing board system, Côte d'Ivoire and Cameroon use the caisse de stabilisation, and Brazil and Malaysia maintain free-market systems.

Price Support and Income Programs. Ghana, through the Ghana Cocoa Board, and Côte d'Ivoire and Cameroon, through the caisse de stabilisation, administer producer prices on a yearly basis. In Ghana and Cameroon, producer prices are fixed at levels maintained throughout the growing season. Under the Côte d'Ivoire's caisse system, a complex system of payments (called the bareme) fixing producer prices and remuneration for each step in the marketing chain from farm to exports is also specified at the beginning of each growing year (20). All three countries may at times offer quality premiums to farmers delivering cocoa beans which meet or exceed set standards.

Fixed prices provide producers with a measure of protection against short-term fluctuations in the world market price and also insulate producer prices from export prices over crop years. In theory, surplus revenues collected by the board or parastatal agency during years when world prices exceed producer prices can support the system during years when world prices drop below producer prices. In practice, however, surpluses have often financed development projects both within and outside the cocoa industry. Moreover, expanding administrative costs of maintaining boards and parastatals have eroded surplus revenues. This has left governments vulnerable during extended periods of low world market prices and often unable to meet their obligations to producers (20). Cocoa producers in these countries have consequently often faced few incentives to expand production or to utilize advanced cultural practices to improve yield and quality.

Variances in producer prices and wide discrepancies in relative exchange rates between neighboring countries can create additional problems. In Ghana, for example, despite government attempts to raise the price paid to producers, depreciation of the local currency encourages contraband movement of cocoa beans to neighboring countries, such as Côte d'Ivoire and Togo, where higher prices can be obtained in hard currency (68).

Current world surplus market conditions for cocoa and low prices have placed extreme pressure on the fixed price systems used in Ghana, Côte d'Ivoire, and Cameroon. Côte d'Ivoire and Cameroon have been forced to cut producer prices in response to low world prices for cocoa. Also, under the Structural Adjustment Policy of the World Bank/International Monetary Fund (IMF), all

three countries are being required to consider privatization, liquidation, or rehabilitation of the numerous parastatals involved in the production and marketing of cocoa in order to reduce marketing board and caisse de stabilisation administrative and operating costs (64).

Cocoa production in Brazil and Malaysia has thrived under free-market systems. Neither government provides price or income support to producers, although producers in both countries have been affected by the current low world market prices. In Brazil, cocoa producers cope with variations in world market prices by varying the amount of cocoa they sell under forward contracts, or by using the cocoa futures markets in New York and London to hedge against the risk of declining prices (20). The Malaysian government has not adopted a price support policy for cocoa producers, although low prices are causing some reduction in the use of certain production inputs such as fertilizer. This is likely to have a negative effect on production (64).

Input Subsidies. The governments of each of the top five cocoa exporting countries provide producers with some form of input subsidies. In the past, governments in Ghana, Côte d'Ivoire, and Cameroon have provided a wide variety of subsidized inputs, such as insecticides and sprayers, in order to stimulate production and improve cocoa quality. In addition, these governments have maintained replanting programs to assist producers to replant and expand. However, many input subsidies and government-sponsored replanting programs are now being reduced in response to the financial difficulties being experienced by Ghana's marketing board and Côte d'Ivoire's and Cameroon's caisse systems. Cameroon has been urged by the World Bank to abandon its system of subsidizing inputs (64).

While the Brazilian and Malaysian governments do not provide cocoa producers with direct input subsidies, producers receive indirect assistance through extensive government-sponsored research and development activities to improve yields and quality. The Malaysian government launched the Malaysian Cocoa Board in July 1989 to promote research and development and to coordinate production, processing, storage, transportation, and marketing of cocoa beans and products. The board is now funded by the government, but will eventually be funded by the cocoa industry through the collection of levies once cocoa prices have improved and the financial stability of the industry strengthens (64).

Marketing Assistance. Cocoa marketing is heavily controlled by the government in most African countries. In Ghana, the Cocoa Board controls all stages of marketing from the farm gate to dealers in consuming countries. The board sometimes delegates authority to organizations operating under licenses and close supervision, which are remunerated according to allowances determined at the beginning of each season (20). The board also arranges transportation from the growing area to board storage facilities at ports and undertakes all grading and quality control. This allows the payment of premiums to farmers delivering high grade cocoa and also allows the government to maintain the quality of exports while reducing marketing risk to producers.

The degree of government intervention in cocoa marketing is much less under the caisse system. In Côte d'Ivoire, purchasing is carried out by private traders acting as agents, and farmer cooperatives are permitted to act on the behalf of individual growers. The caisse pays all marketing expenses from the farm to the export destinations by reimbursing approved exporters and their agents for services rendered, usually buying and hauling to inland ports.

Transportation to ports, quality assurance, storage, and a margin of profit are reimbursed at varying rates as set in the bareme. Traders compete to purchase cocoa beans from farmers and often provide farm inputs and seasonal credit as a means of ensuring purchases (20).

The caisse in Cameroon operates similarly to that in the Côte d'Ivoire, except licensed buying agents are permitted to purchase cocoa in some areas, and the system provides the government with a greater degree of control. Cameroon's L'Office National de Commercialisation des Produits de Base (ONCPB) controls purchasing by (1) determining the geographic region where purchasing can take place, (2) fixing the date of purchase at each purchasing center, (3) verifying quality, (4) organizing the administration of buying areas, and (5) allocating purchases among licensed buying agents. In addition, the ONCPB often makes transportation arrangements and is closely involved in preparing export documentation. Buyers must submit returns on purchases to the ONCPB, where they are paid on a cost-plus-profit basis as determined by the ONCPB at the beginning of the growing season (20).

Because of the financial difficulties being experienced by the caisse systems in Côte d'Ivoire and Cameroon and the movement toward reducing operating and administrative expenses, both countries are extending more control to private traders and growers. In response to a significant cut in guaranteed producer prices in Côte d'Ivoire this season, growers are being given more freedom to sell directly to exporters via cooperatives acting as buying agents (64). In Cameroon, the purchasing sector may become more privatized as the ONCPB is reduced in both size and organizational costs. The government in Ghana may have to relinquish some control over its marketing system in order to stimulate interest from foreign investors in leasing several private cocoa and coffee plantations (64).

Cocoa bean growers in Brazil and Malaysia receive little marketing assistance and are constrained by relatively few government controls other than quality restrictions. In Brazil, exporters and processors have established buying stations in production areas where they purchase beans at prices based largely on current world cocoa prices. While the system provides growers with little protection against price variability, various marketing strategies may be used to hedge price risk, such as varying the amount of beans sold under forward contracts or delivering beans which may be priced at a future date (20).

In Malaysia, the Federal Agricultural Marketing Authority (FAMA) plays a large role in marketing cocoa beans grown by smallholders in order to maximize grower returns and reduce the role of marketers. Producers on large estates will benefit from the marketing activities of the recently formed Malaysian Cocoa Board.

Grading is the primary marketing function provided by the Malaysian government. Malaysian cocoa beans have been discounted at terminal markets because of their high acidity and shell content and irregular and small size (69). Statutory grading through FAMA has operated in West Malaysia since August 1984 in an effort to upgrade the uniform quality of cocoa exports.

Trade Policies of the Major Market Players. Trade policies of the major cocoa bean exporting countries range from complete government control of exports under the direction of government marketing boards to no formal control. Importing countries usually do not assess tariffs on cocoa bean imports, but

tariffs can range progressively higher on processed cocoa products depending on the level of processing.

Export Policies. Cocoa bean and cocoa product exports are tightly controlled by the governments in Ghana, Côte d'Ivoire, and Cameroon, and are relatively free of policy constraints in Brazil and Malaysia.

In Ghana, the cocoa board has a monopoly on cocoa exports which allows the government to maximize control over export revenues. Export sales of beans and a small amount of liquor, butter, and powder processed in state-owned processing plants are transacted through companies under the direct control and ownership of the Ghana Cocoa Board (20). The board is responsible for arranging storage at domestic ports and shipments to export destinations, thus permitting maximum use of domestic shipping lines.

Ivorian cocoa exports are overseen by the caisse, although private export firms, acting as agents, handle most administrative and shipping arrangements. The caisse sets both prices received by exporters and timing of export sales and is actively involved in selling cocoa directly to foreign dealers and other importers (20). The caisse also allocates export quotas among exporters who are then free to negotiate their own sales. Export sales must be approved by the caisse before shipment is permitted. Exporters are paid the world market price at the time of sale. However, should this price exceed the reference export price set annually in the bareme, the exporter must pay the difference to the caisse in a process known as reversement. On the other hand, if the world price is below the reference export price, the caisse is responsible for making up the difference from its financial reserves. The export reference price system is intended to stabilize the price received by exporters.

The export system in Cameroon is similar to that in Côte d'Ivoire, except the ONCPB is responsible for making all export sales and exporters acting as agents complete the remaining arrangements.

Neither Brazil nor Malaysia subsidize cocoa exports. However, export financing is made available to manufacturers of cocoa products in Malaysia (64).

Brazilian exporters are required to pay an export tax set 10 percent above grower prices. The tax helps to ensure adequate low-cost supplies for Brazil's domestic cocoa processing industry and to generate government revenue.

None of the major cocoa bean exporting countries manipulates exchange rates for the sole purpose of promoting exports, but they significantly suppress exports in some countries. However, exchange rates determine the relative ability of cocoa exporting countries to compete in world markets as well as being important determinants of the costs producers pay for imported inputs.

Frequent periods of oversupply and low prices led to the formation of the first International Cocoa Agreement (ICCA) in 1970. Since then, four successive agreements have attempted to stabilize world cocoa prices through various buffer stock mechanisms. The 1986 agreement is due to expire on September 30, 1990, and efforts to negotiate its renewal have been unsuccessful. The ICCA has not functioned as smoothly as a similar agreement for coffee. The buffer stock mechanism implemented by the ICCA has been

ineffective in stabilizing prices in recent years. Moreover, several large producing countries, such as Côte d'Ivoire, are in arrear of their obligations to pay the \$30 per ton levy on cocoa exports that was used to fund the buffer stock, leaving the stock purchase fund supported mostly by import levies paid by consuming countries. Of the top five major world cocoa bean exporters, only Malaysia has never been a member of the ICCA, and the last agreement was not signed by Côte d'Ivoire. Malaysia remained outside of the agreement partially due to fears that joining would result in pressures to restrict growth of its rapidly expanding cocoa industry through the imposition of export quotas (64).

With cocoa bean prices currently at 14-year lows, members of the Cocoa Producers' Alliance (CPA) are working toward finding a replacement for the ICCA. The CPA has also agreed that there is a need to expand market potential for cocoa products and that cocoa butter, oil, and chocolate are products providing possibilities for growth. CPA members represent about 80 percent of world cocoa bean production.

Import Policies. Importing countries place relatively few constraints on imports of cocoa beans other than import tariffs, but import tariffs on processed cocoa products can be more serious. Most of the major cocoa bean importing countries offer reduced tariffs or duty-free status to countries exporting cocoa beans under GSP programs which include all cocoa bean producers. In the United States, cocoa beans, cocoa paste (not defatted), cocoa butter, cocoa powder containing less than 65-percent sugar by weight, and cocoa shells, husks, and skins are imported duty-free, but tariffs are assessed on wholly or partly defatted cocoa paste, unsweetened cocoa powder, and cocoa powder containing more than 65-percent sugar by weight. The United States offered concessions on the duty rates for defatted cocoa paste and unsweetened cocoa powder as part of the tropical products agreement reached during the Uruguay Round mid-term review in Montreal (see app. table 3). However, binding of the new rates depends on the outcome of negotiations for agricultural products.

In contrast, the EC assesses tariffs on all cocoa imports including cocoa beans. In addition, EC members are also permitted to assess internal taxes on cocoa beans and processed cocoa products. During the mid-term review, the EC also offered reductions of 3-4 percent on base ad valorem duty rates for several cocoa products including cocoa paste (defatted and not defatted), cocoa butter, fat and oil, unsweetened cocoa powder, shells, husks, and skins (see app. table 3). However, even after the mid-term review reductions, the new tariff rates remain relatively high for most of these products, at 12 percent ad valorem for defatted and not defatted cocoa paste and unsweetened cocoa powder and 9 percent for cocoa butter, fat, and oil.

Coffee

Like cocoa, coffee is an important source of foreign exchange in most exporting countries. Thus, governments play a heavy role in coffee production and marketing, ranging from simply providing credit and quality control to monopolies over milling and marketing. In addition, government spending and exchange rate policies, as well as transportation reliability, affect the price and profitability of coffee production (55). Because of government taxation policies and overvalued currencies in 1986, the prices received by coffee producers in Brazil and Kenya were 17 percent lower than the export

value, while producer prices in other coffee exporting countries were actually 40-70 percent below the export value (40).

Most of the major importing countries primarily import coffee beans which are processed in domestic roasting industries. However, a small amount of roasted and instant coffee may also be imported, primarily from Mexico. Similar to cocoa, the major importing countries place few constraints on imports other than import tariffs, which tend to escalate with the degree of processing.

Until recently, international trade in coffee was largely governed by the quota and guaranteed pricing system mandated by the International Coffee Agreement (ICA), an international commodity agreement supported by many coffee exporting and importing countries. The quota system was suspended in July 1989 after a consensus could not be reached between the importing and exporting members for negotiating a new agreement (see below). As a result of the quota suspension, many countries have revised their domestic and trade policies for coffee in order to adjust to a new competitive market environment.

Domestic Policies of the Major Market Players. Government marketing boards control production and marketing of coffee in several of the major exporting countries, in the past to comply with the quotas set by the ICA. Since the ICA quota suspension, however, several major exporters have either phased out marketing boards or redirected their responsibilities more toward providing extension and research services or assisting smallholders to market their production.

Marketing Boards. Marketing boards are responsible for overseeing most domestic and export policies for coffee in most of the major coffee exporting countries. These boards play various roles in regulating purchases, quality control, maintenance of stocks, and exports. While the activities of marketing boards vary considerably from country to country, their primary function in each country is to control stocks, prices, and exports.

Until its elimination in March 1990, the Brazilian Coffee Institute (IBC) drafted production and marketing regulations for Brazilian coffee and was responsible for putting those regulations into effect once approved by the minister of industry and commerce. In addition to its responsibilities for purchasing surplus coffee, maintaining stocks, and providing extension services to growers, the IBC also set export quotas, daily minimum export prices, and contribution quotas (export taxes). Coffee exporters were required to register exports with the IBC before shipment could take place.

In Colombia, a private organization under contract with the government (the National Federation of Coffee Growers, or FEDERACAFE) is responsible for overseeing stocks and regulating pricing policy, in the past to comply with ICA rules. FEDERACAFE establishes a guaranteed price for which it will purchase federation-type coffee, but producers also have the option to sell to private exporters who buy according to their own requirements as to origin, blend, and quality (41). Coffee exporters are required to pay a retention tax to FEDERACAFE, partially in cash and partially in coffee beans, in addition to an in-kind export tax, which is paid in the form of a quantity of low-grade coffee equivalent in weight to a specified percentage of the amount of superior quality coffee exported (41). The lower grade coffee is retained for domestic consumption.

Government intervention in the production and marketing of coffee in Côte d'Ivoire is much the same as that for cocoa; the caisse system largely determines domestic pricing and export policy. Similar to cocoa, the yearly grower price and the reference export price are established by the bareme. To partially compensate producers for reducing producer prices during the 1989/90 marketing season, growers are now eligible to receive coffee quality premiums (64).

Indonesia is an exception to the pattern of using marketing boards to control exports. However, the Indonesian Coffee Exporters Association (AEKI) has progressively consolidated the large number of Indonesian exporters into groups that conduct their purchasing activities in 10 marketing centers (16). The AEKI also conducts market promotion programs to increase demand for Indonesian coffee in export markets, and has entered into a cooperative agreement with the government's department of agriculture to improve the quality of coffee produced by smallholders (16, 64). About 90 percent of the area planted to coffee in Indonesia is cultivated by smallholders.

In Mexico, the Mexican Coffee Institute (INMECAFE) functions similarly to Brazil's IBC. In the past, INMECAFE was responsible for overseeing export activities, marketing coffee for smallholders, and administering pricing for Mexican coffee producers in addition to providing extension services and easy credit for smallholders. Since the suspension of the ICA quota system, however, Mexico has eliminated the guaranteed pricing system, export duties, and export permit requirements in order to increase competition in world markets and expand exports. INMECAFE still plays an important function in drafting Mexican coffee policy and balancing the needs of the domestic processing industry, exporters, large producers, and smallholders. The organization remains actively involved in purchasing, storing, and arranging export for much of the coffee produced by smallholders, although it has also assisted smallholders to form cooperatives. In addition, INMECAFE still provides extension services, including promoting the planting of alternative crops, such as cashews, to help smallholders in some areas diversify their production base and curb further expansion into coffee. INMECAFE is also working to diversify export destinations for Mexican coffee in order to reduce dependence on U.S. markets.

Input Subsidies. Most governments of the major exporting countries use input subsidies to assist coffee production, primarily among smallholders. However, in some countries, these subsidies are being reduced or phased out to curb production expansion and improve prices by alleviating surplus stocks. Government-sponsored extension activities to combat disease outbreaks, improve cultural practices, or to increase yields on planted area remain widespread. In addition, producers in many countries benefit from government-sponsored transportation and road improvement programs.

Trade Policies of the Major Market Players. The suspension of the ICA quota scheme for coffee and the return to a more competitive world market environment has prompted the governments of most major coffee exporting countries to revise their export policies. Most major importing countries use a system of escalating tariffs to encourage coffee bean imports and discourage heavy imports of processed coffee products.

Export Policies. In many cases, the former roles played by government marketing boards in controlling exports to comply with quotas imposed by the

ICA are being reduced along with export taxes. However, it is likely that a new agreement would result in some reversion to previous controls.

Along with the elimination of the IBC, the Brazilian government eliminated taxes on coffee exports in March 1990, although exporters must still register exports before shipment can take place. The Mexican government also eliminated its export tax system on coffee during the same month to improve competitiveness on world markets and stimulate export activity. The Indonesian government recently suspended its system of domestic allocation among coffee exporters, which was based on past performance of each exporter. Although the domestic allocation system will be resumed if a new ICO quota is enacted, Indonesian exporters are now free from any regulations restricting quantity or export destination (64). Côte d'Ivoire and Colombian coffee exports remain constrained by export taxes, among other government controls.

Of the five major coffee exporting countries, only Colombia directly manipulates exchange rates to stimulate domestic growth by expanding exports. Since the mid-1980's, progressive devaluation of the currency has provided an impetus for expansion of the export sector and increased the profitability of exports. However, a specific charge for repatriating dollars earned from coffee exports actually functions as an export tax on Colombian coffee exporters (41). In Brazil, rapid devaluation of the currency in the past has also been a major incentive for increasing exports. In January 1990, Brazil underwent the largest devaluation ever, providing strong potential to raise export competitiveness.

Negotiations to renew the 1983 ICA collapsed in July 1989 with member countries unable to resolve serious operational issues. The primary source of debate centered around the quota system and how quotas are allocated. While several large coffee exporting countries expressed dissatisfaction over their quota allocations, consuming member countries lodged complaints about the lack of flexibility in allocating quotas among producing countries and coffee varieties and the frequency of large discount sales to nonmember countries. The seriousness of these issues will likely require that the quota system be totally revamped before a new accord can be reached.

With world coffee prices dropping by half since suspension of the ICA quota scheme, the Inter-African Coffee Organization (IACO) was ratified in October 1989 by eight African countries (Kenya, Angola, Cameroon, Côte d'Ivoire, Ethiopia, Tanzania, Uganda, and Togo) to continue efforts toward reintroducing the quota system for coffee exporters. In addition, the IACO is working to finance short-term marketing strategies for members, to promote coffee exports under an African coffee label, and to persuade former non-ICA African coffee producing countries to join negotiations for a new ICA.

Import Policies. The primary green coffee importing countries (the United States, Germany, France, and Italy) tend to erect few barriers against imports other than import tariffs. While the United States has maintained a duty-free status for all coffee imports for many years, EC and Japanese import tariffs can be quite high for countries not receiving preferential treatment. However, both the EC and Japan conceded reductions on several coffee import tariffs as part of the tropical products agreement reached during the Uruguay Round mid-term review in Montreal. The EC tariff reductions ranged between 1 and 6 percent on base rate duties ranging between 5- and 18-percent ad valorem for regular and decaffeinated roasted and nonroasted coffees and husks and skins (see app. table 3). Japan also offered a 50-percent reduction on its

20-percent ad valorem tariff rates for regular and decaffeinated roasted coffees. Japanese imports of regular and decaffeinated coffee beans were already duty-free.

Tea

The level of government assistance provided to tea producers in the major exporting countries (India, Sri Lanka, China, Kenya, and Indonesia) also varies by country and year. However, empirical analysis shows that, similar to coffee and cocoa, tea producers in many of the major exporting countries are effectively taxed (41). In recent years, most of the primary tea exporting countries have followed an expansionary orientation in their policies designed to increase export volume, diversify markets, and increase exports of value-added teas. Import policies vary widely among the major importing countries.

Domestic Policies of the Major Market Players. Tea production in most of the major producing countries except China is characterized by the coexistence of both smallholders and large estates, which may be publicly or privately owned.³⁶ Government assistance for production and marketing is provided primarily to smallholders and publicly owned estates, although large private estate owners may also benefit from government-sponsored extension activities. Current emphasis in the major exporting countries is to increase the potential for expanding foreign exchange earnings through improved quality and the export of value-added tea products such as tea in bags and instant teas.

Marketing Boards. Government-sponsored marketing boards for tea commonly exist to support the production and marketing interests of small tea producers. The responsibilities of these boards and hence the degree of government intervention in tea production and marketing vary among countries.

India's Tea Board provides various subsidies and incentives to encourage tea production. For example, the board runs a tea plantation finance scheme providing loans to encourage new plantings and replanting, primarily on closed and weak gardens (64). In Sri Lanka, the Tea Small Holdings Development Authority (TSHDA) provides smallholders with manufacturing facilities and subsidies for various cultivation schemes. The Kenya Tea Development Authority (KTDA) was developed to assist smallholders by providing credit for inputs and by purchasing and processing tea produced by smallholders within the KTDA-managed sector.

In Indonesia, private plantations have a minor role in tea production.³⁷ However, under the West Java Nucleus Estate and Smallholder Tea Rehabilitation Program, the government has requested the assistance of private companies to

³⁶ Little information is available on China's policies for tea production. Tea production takes place on government-owned estates and is marketed by government-controlled boards.

³⁷ In 1989, private plantations accounted for only 17 percent of Indonesia's total tea production. However, the percentage of private tea cultivation is likely to rise as recent government efforts to increase the attractiveness of agricultural investment have resulted in at least three new companies receiving approval to develop private plantations and processing plants to begin production in the 1990's (64).

help provide smallholders with improved seed and high-yielding tea varieties, as well as training in more efficient cultivation techniques. In addition, the nuclear estate will arrange processing and marketing in an attempt to improve prices for smallholders and allow producers to concentrate efforts on producing a quality product (64). Tea produced on state-owned plantations is marketed by the Joint Marketing Board, which also markets other crops produced on state-owned plantations. Government extension programs on state-owned estates also focus on improving management, cultural practices, and harvesting techniques.

Marketing Assistance and Regulation. Tea produced in India, Kenya, Indonesia, and Sri Lanka is sold by public or private auction, or by direct contract. Since these governments do not maintain direct price and income support programs for tea producers, smallholders often depend on prices they receive from marketing their production through marketing boards, while private estates are usually permitted to conduct their own marketing activities.

Although domestic auction centers are usually not government controlled, several governments require producers to comply with certain regulations. For example, Kenya's Tea Act makes it mandatory for every licensed tea manufacturer to sell a minimum of 50 percent of its total production through the domestic auction system, in addition to requiring every tea factory to deliver 11-15 percent of its output to Kenya Tea Packers Ltd. for blending, packing, and distributing in the domestic market (64). Tea producers in India are similarly mandated to sell at least 75 percent of their production through the domestic auction system. These regulations help to ensure adequate supplies for domestic markets.

Internal Taxes. Internal taxes in various forms are levied on tea production by the major exporting countries to generate government revenues. State-owned plantations in Indonesia pay a shareholders' dividend to the government in addition to an income tax. In 1989, the Kenyan government replaced an export duty on tea with a 5-percent presumptive tax on gross sales by smallholders, while corporate taxes are levied on estates and large farms.³⁸ A 17-percent sales tax was also replaced with a value-added tax levied at the same rate. The Sri Lankan government recently abolished an ad valorem sales tax based on the monthly sales of each tea factory. However, several other taxes are applied to all categories of tea exports (64).

India levies excise or production taxes on producers. The various state governments are also permitted to levy additional taxes on producers within their jurisdiction. Taxes are higher for value-added tea products than for loose tea. Producers of packaged and instant teas are assessed an excise tax in addition to the applicable rate of duty on loose tea, although packaged and instant teas for export are exempt. Green tea is also exempt from the excise tax. Excise taxes on black tea are lower for tea produced in cooperative tea factories (64).

Trade Policies of the Major Market Players. The governments of most major tea exporting countries place few quantity restrictions on tea exports, but do intervene in assuring the quality of exports as well as in the collection of

³⁸ The Kenyan government recently waived the presumptive tax due to instability within Kenya's rural agricultural sector.

export duties and other taxes. Most of the major importing countries place few restrictions on imports other than tariffs.

Export Policies. With the exception of China, where the government exercises total control over tea exports, the governments of most major exporting countries place few restrictions on tea exports.

The Sri Lankan government collects export duties on tea in bulk, packaged, instant, and bag form. Tea exporters are also required to pay an assessment tax to the Sri Lankan Tea Board and a medical aid tax on all tea categories for export. In India, tea exporters are required to be licensed with the Tea Board, while Sri Lankan exporters must register export contracts and furnish f.o.b. and c.i.f. prices to the Tea Commissioner. To account for hard currency earnings in Kenya, the government requires tea exporters to register with the Tea Board of Kenya and also provide bills of lading. In addition, the Kenyan government places limitations on the number of bank accounts that can be used for receiving and accounting for export earnings and closely monitors exporters through commercial banks and the Customs Department (67).

Both India and Sri Lanka provide export subsidies to promote tea exports, but the export compensation program used in Kenya for many other agricultural commodities does not apply to tea. India provides tea exporters with cash compensatory support for exporting and may also target certain types of tea for additional export subsidies. Exporters of value-added tea products in Sri Lanka receive cash subsidies from the Export Development Board (64).

The development of new markets for tea, to reduce reliance on traditional markets where consumption may be declining or where exporters are facing stiffer competition from substitute beverages or exporters in other countries, is a major objective of several of the major exporting countries. Indonesian tea exporters, for example, are being urged to undertake extensive marketing programs to expand exports in new tea importing markets. Kenya has also launched a vigorous promotion scheme to expand exports in countries other than the eight traditional markets where exports were previously concentrated.

There is also a strong interest among the governments of the major tea exporting countries in expanding exports of value-added tea products. Export incentives may be provided by levying lower internal or export taxes on these products or providing export subsidies.

Import Policies. Import policies for tea vary among the major importing countries, but none erects particularly serious barriers. Tea has entered the United States duty-free for many years, except for a small amount of the product imported from other developed countries at a low duty rate. While the EC reduced its 5-percent ad valorem duty on imports of fermented black tea (in packages of less than 3 kg) to zero as part of its package of concessions offered during the tropical products negotiations, it retained a 5-percent ad valorem rate on imports of green tea in packages of less than 3 kg. Loose tea imports enter the EC duty-free.

Tea consumption is a longstanding tradition in Egypt, Iraq, and Pakistan and government policies aim at assuring an ample supply to consumers at reasonable prices. Despite the rapid growth of tea consumption in these three countries, policymakers do not tend to use duties on tea as a major source of revenue. In Egypt, tea imports were once controlled solely by the government, but private traders are now being allowed to engage in import activities. Private

Egyptian tea importers are assessed a 1-percent statistical tax and are at times subject to an additional small import duty, usually 5-percent ad valorem or less. Imports into Pakistan are also conducted by private traders, who are assessed small import duties. While imports into Iraq remain under government control, they enter duty-free and are sold in public shops at reasonable prices.

Implications of Trade Liberalization

Classical trade theory suggests that, in the absence of trade barriers, trade in free markets would be governed by the comparative advantage between exporters and domestic producers selling in that market and the responsiveness of consumers to price changes. It follows that, in addition to the changes that are likely to occur in trade volumes from the removal of tariffs and quantitative restrictions, structural changes may occur in the fresh fruit and vegetable, wine, and tropical beverage industries in some countries as a result of eliminating support policies that distort comparative advantage.

The level of support provided to producers of many agricultural specialty commodities generally appears to be relatively less than that provided to producers of bulk commodities like grains in most countries.³⁹ The higher level of support for bulk commodities likely has drawn resources away from the production of some agricultural specialty commodities, depending on the factor market linkages between individual commodities. This suggests that for agricultural specialty commodities that have relatively high cross price elasticities of supply with bulk commodities, a reduction in subsidies across commodities would likely result in higher production and lower prices.

Trade Liberalization Effects

The adjustment required to move toward a free-market environment will depend on the degree of protection currently used and the method of removal. The effects will vary between developed and developing countries and between producing and nonproducing countries. Removal of policies providing direct support to producers and protection from import competition would generally lower producer prices, increase quantity demanded, and expand imports. With the expansion in trade, exporters would be more likely to benefit at the expense of producers in importing countries, although producers in exporting countries may also be subject to greater import and export competition. The degree of market expansion achieved by any one exporting country will depend on the ability of producers in importing countries to compete and on the competitiveness of other major exporters.

In countries where there is no domestic production, market expansion will occur only to the extent that consumer demand and purchasing power permit. Also, the ability of any one exporter to increase market share depends on that exporter's ability to compete with other exporters.

³⁹ Comprehensive data on PSEs (producer subsidy equivalents) for agricultural specialty commodities are not available for most countries. However, PSEs for selected agricultural commodities produced in Chile (a major producer of a variety of fresh fruits) show the level of support provided to Chilean wheat and corn growers, for example, to be more than double that provided to Chilean apple, table grape, and potato growers (73).

The ability to compete in world markets in the absence of trade barriers is also heavily influenced by government macroeconomic policies. These policies include control of exchange rates, which determine the relative prices received by producers in competing regions from selling produce in international markets and the prices paid for any imported production inputs. In some countries, exchange rates can have more influence on trade than government trade policies. This suggests that production and consumption responses to trade liberalization apart from macroeconomic policies may not be fully realized in these countries.

Fresh Fruit and Vegetables

Many developing countries have found a market niche for supplying markets in developed countries with off-season produce. These auxiliary production areas have often expanded in developing countries in close proximity to major markets in developed countries. Producers in these developing countries usually have a competitive advantage in vegetable production relative to producers in developed countries, primarily from lower labor costs. Major auxiliary production areas include Latin America and the Caribbean, which produce winter fresh vegetables for North American markets, and the African and Mediterranean countries, which supplement fresh vegetable markets in the EC.

Any major production expansions in Latin America and the Caribbean for increasing exports of winter fresh vegetables to the United States would adversely affect U.S. producers. The degree of this effect will depend on the ability of these countries to maintain lower input costs in the absence of production subsidies and other government export incentives.⁴⁰ Moreover, exchange rates in many of these countries have elevated prices for other production inputs, which may become unaffordable to producers without some form of government assistance in addition to lowering returns from export sales. Few production incentives are evident from the elimination of U.S. tariffs because tariffs represent only a small cost of total production and marketing expenses incurred by foreign growers shipping to the United States, they have been relatively fixed for many years, and their effects have eroded with inflation.

The production area for fresh vegetables in the EC expanded with the accession of Spain and Portugal in 1986. Spain's ability to produce low-cost fresh vegetables over extended production seasons has curbed imports from Africa and other nonmember Mediterranean countries, although trade preference agreements have been maintained with these countries. EC production of several fresh vegetables, particularly tomatoes, would likely contract with the removal of production support and surplus removal mechanisms. This may encourage production in nonmember Mediterranean countries, but any expansion for the purpose of supplying EC markets would depend on producer competitiveness with producers in Spain and a high enough price level to cover additional transportation costs.

⁴⁰ U.S. winter fresh vegetable producers in Florida have been able to check import competition through the adoption of production technology designed to lower costs (29). While in the long run the adoption of advanced technology in competing regions may lower their production costs even more, U.S. producers have remained competitive with their counterparts in Mexico and the Caribbean (10, 11, 13).

Compared with fresh vegetable production, fresh fruit production would likely undergo more shifts between major production regions in moving to a liberalized environment because fruit production is more regional and the commodities are traded over longer distances. The effect would likely be greater for those fresh fruits that are relatively more storable, such as apples and pears, since imports could compete with domestic commodities as they are withdrawn from storage. Moreover, the demand for apples, for example, is believed to be inelastic in many countries; that is, a fall in retail prices would be expected to result in a much smaller increase in consumption (26). Often, commodities with low demand elasticities will have high price flexibility, where small changes in supplies can lead to relatively larger price changes. This leaves producers subject to market instabilities in the absence of some form of price or market stabilization program (26).

In the EC, elimination of the withdrawal system would likely induce some producers to shift away from the production of fruits with chronic oversupply problems, such as apples. Removal of the reference price and countervailing duty scheme would also be likely to result in greater import competition for the 11 fruits currently protected by this system. Although Spain is a low-cost producer of oranges, currently supplying about half of the EC market, increasing demand in many EC countries could benefit Israel, Morocco, and other North African countries. Similarly, South Africa, Hungary, and other Eastern Bloc countries could benefit from the elimination of reference prices for apples and stone fruits. Should EC trade preferential agreements between nonmember Mediterranean and Middle Eastern countries also be eliminated, ample incentives could arise for increasing U.S. orange exports to EC markets. However, this would depend on EC price levels rising high enough to cover the additional transportation costs facing U.S. orange producers relative to producers in the nonmember Mediterranean and Middle Eastern countries.

The few production incentives provided by government policies to U.S. fruit producers suggests U.S. prices would not significantly decline with trade liberalization and might in fact increase with the opening of new export market opportunities. Fresh fruit production in the United States could expand with the elimination of trade barriers existing in Japan and other Pacific Rim countries, which include quotas, tariffs, import licensing, often excessively restrictive phytosanitary regulations, and direct prohibition in some cases. Gaining market share in these countries, however, would depend on the ability of U.S. producers to compete with fresh fruit producers in Australia and New Zealand, however. Fresh fruit production is expanding in both of those countries and lower transportation costs may provide these producers with a competitive advantage over U.S. producers in Pacific Rim markets.

U.S. fresh fruit producers would not likely experience a significant increase in import competition from the elimination of U.S. tariffs on fresh fruits. Similar to fresh vegetables, many U.S. fresh fruit imports complement domestic production by entering during the winter months. However, unlike fresh vegetables, U.S. imports of fresh fruits during the off-season enter duty-free, and some fresh fruits, such as apples, enter duty-free year around. The elimination of U.S. tariffs applied to fresh fruits during domestic production seasons is not likely to induce many additional production incentives for foreign suppliers since none located in close proximity to the United States, with the exception of Canada, have production seasons that parallel those for

most fresh fruits in the United States.⁴¹ U.S. tariffs for Canadian fresh fruit imports, among other commodities, are already being phased out under the U.S./Canadian free-trade agreement.

Foreign exporters of fresh fruits, such as table grapes, avocados, and limes, to the United States would benefit if trade liberalization resulted in an amendment of the quality provisions applied to various fruits under marketing orders to reflect less stringent standards. However, as these provisions are in place to maintain the quality of fresh fruits in U.S. markets and to standardize marketing systems, they are not likely to be significantly changed or eliminated.

Trade liberalization could provide incentives for expanding temperate fruit production in some developing countries in search of export revenues in light of depressed world prices for cocoa and several other tropical products. These countries include Afghanistan, Egypt, and Iran (72). Because of their developing country status, these countries may be granted a slower time table on all trade liberalization measures negotiated during the Uruguay Round, such as the elimination of production and export subsidies. This exemption could enhance the competitive advantage of producers in developing countries and encourage the development of export industries based on agriculture.

Banana exports are an important source of revenue for many developing countries.⁴² Trade patterns are heavily governed by trade preference agreements with major importing countries. Trade liberalization may encourage expanded banana production in areas not favored by preferential agreements, should these agreements be eliminated. Lower prices in EC markets may stimulate consumption and increase competition between developing countries currently receiving preferential treatment in these markets. Banana producers in South and Central American countries would benefit the most from the elimination of existing preferential agreements since they currently have the least preferential arrangements with the EC. Moreover, the South and Central American countries generally produce higher quality bananas than many of the African and Caribbean countries. In the past, preferential agreements provided to the Lomé countries have sheltered producers in these countries and made quality less of an issue (38).

Conversely, U.S. banana liberalization would not be expected to stimulate production in the commercial banana producing countries since there are currently no significant barriers to trade in the form of tariffs or quotas

⁴¹ Oranges could be an exception to this since the Mexican production season for oranges does coincide with that of the United States. While tariffs generally have not been cited as being a major impediment to expanding Mexican orange exports to the United States, their elimination could provide an incentive for increasing export production in Mexico. Heavier fresh orange imports could put pressure on U.S. producers, as empirical studies have shown that U.S. consumer demand for oranges in the United States is relatively elastic with respect to price; that is, highly responsive to small price changes (47).

⁴² For example, in the five major exporting countries (Ecuador, Colombia, Costa Rica, Honduras, and the Philippines), the contribution made by banana exports to total export earnings in 1987 ranged from 10 percent in the Philippines to 40 percent in Ecuador (62).

and relatively little domestic commercial production. However, more competition between foreign suppliers would result in a decline in U.S. market prices.

An unpublished ERS analysis of the effects of trade liberalization on banana trade supports the arguments made above. The analysis shows that removal of import policies by importing countries would increase both the total volume and value of banana imports and exports. Export volume and value would rise for the South and Central American exporting countries (Brazil, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, and Panama), and decrease for most African countries (Martinique, Somalia, St. Lucia, Côte d'Ivoire, and the Canary Islands). The analysis also shows that eliminating import policies for bananas would stimulate imports in Finland, France, Italy, Netherlands, Switzerland, and United Kingdom, which would more than offset modestly lower import volumes in Austria, Belgium, West Germany, Norway, Sweden, and United States.

Wine

Trade liberalization would result in many changes in world production and trade patterns for table wine. Production would likely contract in the EC as export incentives and protective measures are eliminated and producers face import competition as well as greater competition in world markets. Any production decrease in the United States, where producers are provided with virtually no government assistance other than tariffs, is likely to be modest. However, U.S. producers would also face stiffer import competition from the removal of U.S. wine tariffs.

U.S. wine producers would likely gain market share in world markets if EC export subsidies were eliminated. In the absence of the export subsidies currently provided to EC producers, production costs in both countries are relatively competitive (43). The degree of market share attainable by U.S. producers will also depend on their ability to compete with other potentially low-cost production regions, such as Chile, Romania, and Australia, which are currently expanding export production. Wine has also been identified as a major potential source of export revenue for other developing countries with trade liberalization (72).

To expand markets, major wine exporters may increase export promotion expenditures in order to differentiate their products and establish brand loyalty among consumers. However, relative exchange rates between importing and exporting countries will be a major factor in determining market shares and prices.

Tropical Beverages

Most developed countries participating in the Uruguay Round have proposed that developing countries should receive special and differential treatment in implementing GATT-obligated agricultural reforms. However, the nature of this special and differential treatment is yet to be decided. A GATT agreement to reduce all subsidies, including production subsidies as well as export subsidies, could pose adjustment problems for developing countries since many use subsidies to offset the effects of taxation policies on producers. Adjustment problems would be compounded by such an agreement if developing countries did not also reduce the taxing effect on producers of other agricultural and exchange rate policies (7).

It is unlikely that simply removing or reducing tariffs for primary tropical beverages in importing countries would significantly alter present production or trade patterns, since tariffs in many importing countries are already at relatively low levels and prices are not likely to show much improvement with their removal. Rather, the bigger question to be examined is whether policy reform in the producing countries would result in loss of export revenues in the short term and shifting production patterns or declining exports in the longer term.

Results obtained by Mabbs-Zeno and Krissoff in modeling various scenarios for liberalizing trade for coffee, tea, and cocoa showed the trade responses to liberalization to be similar for all three commodities (40). Modeling trade liberalization scenarios for coffee, tea, and cocoa, in both primary and processed forms, the researchers concluded that (1) revenue to producing countries would be increased slightly by the removal of tariffs in developed countries, (2) trade value would decline by 26 percent with the liberalization of policies in producing countries, and (3) simultaneous liberalization of policies in all countries would result in a 25-percent reduction in trade value, representing about a \$4-billion loss in trade revenue for tropical beverage producers. The revenue loss is due to the relatively inelastic world demand for tropical beverages which constrains major exporters from attempting to enhance export revenues through increasing exports. Any large increases in export volume would cause significant declines in world prices.

Cocoa producers face little potential increase in demand from developed countries because of low projected population growth and low income elasticities of demand (5). However, should trade liberalization favor continued reduction in trade barriers for processed cocoa products, the development of processing facilities in cocoa producing countries could generate additional export revenues. Mabbs-Zeno and Krissoff found that international prices for cocoa beans remained fairly constant with tariff removal in developed countries, but that prices for liquor increased 6 percent, while cake and butter prices gained 24 and 2 percent. In modeling the scenario of policy reform in cocoa producing countries, the researchers also found that cocoa bean prices fell 44 percent compared with 31-38 percent for partially processed cocoa products when government policies were removed (40).

Empirical results of another study of liberalizing trade for cocoa beans indicate that most benefits from trade liberalization would go to Brazil, Ghana, and Côte d'Ivoire, the three largest cocoa bean exporting countries (72). Other cocoa bean producing countries which could potentially benefit from trade liberalization include Malaysia and Indonesia, since both are low-cost producers.

Trade liberalization is not likely to result in increased coffee bean revenue from export to developed countries. Any growth would likely occur through expanding processing capacity for exporting roasted or soluble coffees, and through the development of domestic markets where consumption is growing at higher rates. Results obtained by Mabbs-Zeno and Krissoff indicate that the removal of tariffs by developing countries would boost international prices for processed coffee by about 4 percent, while coffee bean prices would be little changed (40). The model also indicates that the removal of government policies by the coffee producing countries would increase trade revenue for processed coffee by 10 percent, but the gain would be offset by a 29-percent decline in revenue received from exporting coffee beans. The decline in total

revenue would primarily affect countries such as Brazil and Colombia where lower international prices would more than offset the effect of removing government taxation policies (40).

Trade liberalization is not likely to induce many changes in production or world trade patterns for tea. The removal of tariffs by developed countries would be expected to have little effect on international prices or consumption in developed countries since tariffs in most of these countries, with the exception of Japan, are already at low levels. On the other hand, analysis indicates international prices could fall by as much as 27 percent with the removal of government tea policies in the producing countries, resulting in a 12-percent decline in tea export revenue (40). However, the analysis also indicates that not all countries would experience a revenue loss. Revenues could increase in those countries, such as China, where gains from the removal of currently high taxation levels offset the decline in international prices (40).

Implications for the United States

Liberalizing world trade in agricultural specialty commodities may mean increasing import competition for some commodities. But, the adjustments necessary for moving to a free-market environment will not be as great as those for other agricultural commodities currently receiving high levels of government support. Fresh vegetables are produced in all 50 States during certain periods of the year and trade liberalization is not likely to encroach on these activities. However, States such as Florida and California producing vegetables for consumption during the winter months would face increasing competition from foreign sources. In addition, continuing pressure from urbanization and other alternative land uses in these areas will continue to increase land costs and competition for water supplies.

Much of the increase in foreign competition in the past has been stimulated by U.S. investment in foreign production areas to supplement domestic production during the winter. Because of the relatively lower production costs in many of these countries, U.S. investors are likely to continue exploring these foreign investment opportunities.

U.S. fresh fruit producers would benefit from the relaxation of trade barriers and increased export opportunities, particularly to Japan and other Pacific Rim countries where increasing affluence is stimulating consumer demand. The ability of U.S. producers to gain and maintain market share in these countries will require producers to remain on the cutting edge in developing production technology to reduce production and marketing costs. In addition, U.S. exporters must be responsive and sensitive to the cultures and product demands of consumers in foreign countries. This will require education.

U.S. wine producers would also benefit from fewer barriers to trade around the world for wine but would have to expend time and resources differentiating their products and developing markets. Markets for premium wines appear to provide more opportunities for product differentiation than for common table wine. U.S. wine producers could benefit from market research studies in this area.

In the long run, U.S. producers of highly subsidized commodities, such as sugar, may diversify their production into potentially more profitable commodities and capitalize on rising consumer demand for fresh fruit and

vegetables around the world. In addition, changing competitive positions of producers currently growing fresh produce may cause them to diversify production or leave the industry (39). Farmers will be constrained by geography and climate conditions in evaluating the potential for diversification; alternatives for fruit and vegetable production will be limited.

Acreage of some fruit and vegetables may expand with policy reforms for bulk agricultural commodities. For example, potatoes are a possibility for replacing some sugarbeet production and land currently used for sugarcane production in Florida could be replaced with citrus trees or vegetables. Vegetable and dry bean production could also expand on land currently in wheat or feed grains in some areas of the South and Midwest. However, the extent to which acreage expands would depend on whether new producers are able to take advantage of factor market linkages, develop the required knowledge and expertise for growing specialty commodities, and whether they are able to compete. Substantial acreage shifts into the production of most fresh fruit and vegetables could devastate market prices.

U.S. consumers would gain from freer world markets because the increase in potential supply areas will help stabilize prices. Moreover, increasing competition would reduce consumer prices for most agricultural specialty commodities. Although this study did not specifically address processed agricultural specialty commodities, lowering tariffs for these products could stimulate development of processing industries in developing countries. This also provides the potential for lower consumer prices in the long run.

U.S. fruit, vegetable, and wine producers will be affected by legislative measures which may increase costs in the long term. These include growing demands for water in urban areas, and water quality laws to alleviate the problem of increasing groundwater contamination from agricultural chemical use. More stringent pesticide regulations and enforcement of tolerance levels are also possible. This will require U.S. producers to develop either new production technologies or practices designed to limit chemical use. However, because of strong consumer interest in maintaining food safety and quality in the United States, imports also would be subject to complying with any changes in U.S. pesticide regulations and tolerance levels.

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Appendix table 1--Kennedy Round results for selected U.S. fruits and vegetables 1/

Commodity	Conceding party	Pre-round tariff level	Post-round tariff level
Fresh vegetables:			
Sweet potatoes	Canada	C\$.0175/lb	Free
Brussels sprouts	Canada	C\$.03/lb for 16 wks; then free	Bound
Carrots	Canada	C\$.01/lb for 40 wks; then free	C\$.005/lb
Carrots (11/1-3/31)	United Kingdom	10% cif	5% cif
Cauliflower	Canada	Jan-Apr free; C\$.0075/lb for 16 wks; then 10% cif	Jan-May free
Corn (cob)	Canada	C\$.015/lb for 8 wks; then 10% cif	Duty for 12 wks; then free
Eggplant	Canada	10% cif	10% cif for 8 wks; then free
Green onions	Canada	C\$.015/lb for 44 wks; then 10% cif	C\$.015/lb for 44 wks; then 5% cif
Parsley	Canada	10% cif	10% cif for 16 wks; then free
Crisp parsley and stalk celery	Norway	NKr 1.60/kg	NKr 0.80/kg
Celery (3/1-4/30)	Sweden	SKr 40/100 kg	Free
Celery (5/1-11/30)	Sweden	SKr 40/100 kg	Bound
Celery (12/1-12/31)	Sweden	SKr 40/100 kg	Free
Celery	United Kingdom	10% cif	5% cif
Parsnips	Canada	C\$.01/lb or 10% cif	Free
Whitloof or endive	Canada	10% cif	Free
Radishes	Canada	10% cif	10% cif for 26 wks
Turnips	Canada	10% cif	Free
Broccoli	Canada	10% cif	10% cif for 16 wks; then free
Other fresh vegetables	Canada	10% cif	Free
Green peppers (11/1-6/30)	Finland	FMk 0.60/kg	FMk 0.30/kg
Fr. veges, ex. onions	Japan	10% cif	5% cif
Fresh fruit:			
Citrus fruit, all	Denmark	5% cif	Free
Citrus fruit	Ireland	Free	Bound
Citrus fruit, ex. lemons	Norway	NKr 2.66/100 kg	NKr 1.33/100 kg
Oranges (1/1-6/30)	Finland	30% cif	15% cif
Oranges	New Zealand	NZ\$0.5/1b	NZ\$0.25/1b
Oranges and tangerines	United Kingdom	10% cif	5% cif
Grapefruit	EC	12% cif	6% cif
Grapefruit	Finland	7.5% cif	Free
Lemons	Finland	FMk 0.135/kg	FMk 0.06/kg
Lemons	Sweden	SKr 5/100 kg	Free
Lemons	United Kingdom	10% cif	5% cif
Grapes	Denmark	15% cif	7.5% cif
Grapes, ex. hothouse	Ireland	1 d./lb	Free
Grapes (8/1-2/28)	Norway	NKr 2.66/100 kg	NKr 1.33/100 kg
Grapes (3/1-7/31)	Norway	NKr 1.33/100 kg	NKr 0.655/100 kg
Grapes (7/1-10/31)	Sweden	SKr 25/100 kg	SKr 12.50/100 kg
Grapes (11/1-12/21)	Sweden	SKr 25/100 kg	Free
Pears	Japan	20% cif	10% cif
Apples (7/1-7/15)	Sweden	SKr 25/100 Kg	Free
Apples (7/16-2/28)	Sweden	SKr 25/100 Kg	Bound
Pears (7/1-7/15)	Sweden	SKr 25/100 Kg	Free
Pears (7/16-12/31)	Sweden	SKr 25/100 Kg	Bound
Peaches	Canada	C\$.015/lb for 10 wks; then 10% cif	C\$.015/lb for 10 wks; then free
Plums	Canada	May-Jun free; C\$.01/lb for 10 wks; then 10% cif	10% cif for 12 wks; then free
Prunes and plums	Canada	C\$.015/lb for 12 wks; then 10% cif	C\$.015/lb for 12 wks; then free
Nectarines	Canada	10% cif	Free
Dates, other	Canada	C\$.015/lb	Free
Dates, fresh or dried	Finland	FMk .205/kg	FMk .10/kg
Dates, fresh or dried	Norway	NKr .30/kg	NKr .15/kg
Dates, fresh or dried	United Kingdom	Free	Bound
Strawberries (8/1-4/30)	EC	16% cif	14% cif
Other fresh fruit	Denmark	Free	Bound

1/ Major participating countries in the negotiations included EC, Canada, Japan, United Kingdom, Austria, Denmark, Finland, Norway, Portugal, Sweden, Switzerland, Iceland, Israel, New Zealand, Spain, Yugoslavia, and the United States.

Source: (14).

Appendix table 2--Tokyo Round results for selected U.S. fruits and vegetables

Commodity	Conceding party	Pre-round tariff level	Post-round tariff level
Fresh vegetables:			
Potatoes, seed	Canada	CS.375/cwt	CS.35/cwt
Potatoes, fresh	Canada	CS.375/cwt	CS.35/cwt
Iceberg lettuce	Switzerland	SF 10/100 kg	SF 7/100 kg
Iceberg lettuce (4/1-11/30)	Norway	NKr 0.80/kg	NKr 0.32/kg
Iceberg lettuce (5/1-4/30 & 12/1-12/31)	Sweden	40 SKr/100 kg	Free 12/1-4/30
Radishes	Norway	Free	Bound
Stalk celery	Norway	NKr 0.80/kg	NKr 0.32/kg
Fresh fruit:			
Citrus fruit	Sweden	SKr 15/100 kg	SKr 5/100 kg
Citrus fruit, ex. oranges	Indonesia	60% cif	Bound
Oranges (Oct-Feb)	Taiwan	78% cif	75% cif
Oranges (Mar-Sept)	Taiwan	78% cif	25% cif
Oranges, fresh or dried (6/1-11/30)	Japan	22.5 mt quota	45.5 mt quota 1983
(12/1-5/31)		22.5 mt quota	20% cif bound
			36.5 mt quota 1983
			40% cif bound
Oranges	New Zealand	NZ\$0.45/100 kg	Free
Grapefruit (Oct-Feb)	Taiwan	78% cif	75% cif
Grapefruit (6/1-11/30)	Japan	20% cif	12% cif
(12/1-5/31)	Japan	40% cif	25% cif
Grapefruit, fresh or dried	EC	4% cif	3% cif
Grapefruit	New Zealand	Not in protocol	Free
Grapefruit, Mar-Sept	Taiwan	78% cif	25% cif
Lemons, Mar-Sept	Taiwan	78% cif	25% cif
Oct-Feb		78% cif	75% cif
Lemons	New Zealand	NZ\$0.90/100 kg	Free
Lemons and limes	Japan	10% cif	6% cif
Grapes, red Emperor, (12/1-1/31)	EC	18% cif	10% cif
Grapes, Oct-Feb	Taiwan	78% cif	50% cif
Grapes	Dom. Republic	RDS\$0.02/net kg	RDS\$0.01/net kg
Grapes	Finland	5% cif	2% cif
Grapes (11/1-2/29)	Japan	20% cif	13% cif
Grapes, Mar-Sept	Japan	78% cif	75% cif
Grapes (7/1-12/31)	New Zealand	NZ\$0.90/100 kg	Free
Grapes	Indonesia	60% cif	Bound
Pears (12/1-7/31)	Finland	15% cif	6% cif
Pears (1/16-2/14)	Norway	NKr .20/kg	NKr .10/kg
(2/15-7/31)	Norway	NKr .15/kg	NKr .07/kg
Pears	New Zealand	NZ \$3.2/100 kg	Free for 3 kg tons
Pears (8/1-1/15)	Norway	NKr .60/kg	NKr .30/kg
Pears (9/30-1/31)	Argentina	Variable to free	Bound @ 35% cif
Apples, pears (8/1-12/31)	Brazil	32% cif	15% cif
Apples	New Zealand	NZ\$3.2/100 kg	Free for 3 kg tons
Apples (11/1-1/31)	Argentina	70% cif to free	Bound @ 35% cif
Cherries	Taiwan	Ad valorem duty	50% cif specific duty
Avocados	Japan	10% cif	6% cif
All fresh fruit	Chile	Various	Bound @ 35% cif
Wine:			
Fruit, 24% proof max	Canada	CS\$0.20/gal	no discrimination
Fruit, 24-46% proof	Canada	50% cif/gal	no discrimination
Sparkling, greater than 1 pt and less than 1 qt	Canada	CS\$4.00/dozen	no discrimination
Sparkling, in bottles greater than 1/2 pt and less than 1 pt	Canada	CS\$2.00/dozen	no discrimination
Sparkling, in 1/2 pt bottles	Canada	CS\$1.00/dozen	no discrimination
Sparkling, in bottles greater than 1 qt	Canada	CS\$2.00/dozen	no discrimination
Vermouth and aperitif, 32% proof	Canada	CS\$0.20/gal	no discrimination
Vermouth, sherry, and port, 32-40% proof	Canada	50% cif	25% cif, no discrimination
Wine from grapes w/ferm. arrest. by alcohol, 150 l	Japan	Y320/liter	55% cif, max Y280/liter

Sources: (14, 65).

Appendix table 3--Uruguay Round concessions for selected tropical products

Commodity	Conceding party	Base duty rate	New duty rate
Coffee:			
Not roasted--			
Not decaffeinated	Australia 1/	2%	Free
	Austria	MFN 12% (Bound) (GSP & LDC 0%)	MFN 8% 2/
	EC	5%	4%
	Finland	3.8% (GSP & LDC 0%)	3%
Decaffeinated	N. Zealand 3/	Free	Free
	Sweden	0 (Bound)	
	Australia 1/	2%	Free
	EC	13%	10%
Roasted--	Finland	3.8% (GSP & LDC 0%)	3%
	N. Zealand 3/	Free	Free
	Sweden	0 (Bound)	
	Australia 1/	Specific duty	Free
Not decaffeinated	Austria	MFN 19.5% (Bound);	GSP 7.8% 2/
	(pkgs of 5 kgs or less)	GSP 15.6% (Bound);	
	(other)	LDC 0%	
		MFN 15% (Bound);	GSP 6%
		GSP 12%;	
		LDC 0%	
	EC	15%	12%
	Finland	16%	7.7%
	Japan	20% (Bound)	GSP 10%
		GSP 20%	
	N. Zealand 3/	25%	14.5%
	Norway	NOK 0.50/kg (Bound)	NOK 0.45/kg (Bound)
Decaffeinated	Sweden	0 (Bound)	
	Australia 1/	Specific duty	Free
	EC	18%	15%
	Finland	16%	7.7%
Tea:	Japan	20% (Bound);	GSP 10%
		GSP 20%	
	N. Zealand 3/	25%	14.5%
	Norway	NOK 0.50/kg (Bound)	NOK 0.45/kg (Bound)
Black, in pkgs of 3 kg or less	Sweden	0 (Bound)	
	Australia 1/	0 (Bound)	0 (Bound)
	Austria	MFN 10% (Bound);	MFN 6% 2/
		GSP & LDC 0%	
Black, other	Canada	C\$.1323/kg	Free
	EC	5%	0%
	N. Zealand 3/	Free	Free
	Sweden	0 (Bound)	
Cocoa:	Australia 1/	0 (Bound)	0 (Bound)
	Canada	C\$.1323/kg	Free
	EC	5%	0%
	N. Zealand 3/	Free	Free
Beans--	Sweden	0 (Bound)	
	Australia 1/	0 (Bound)	0 (Bound)
	Canada	C\$.1323/kg	Free
	Japan	35%	5%
Raw and roasted	N. Zealand 3/	Free	Free
	Sweden	0 (Bound)	
	Australia 1/	0 (Bound)	0 (Bound)
	Canada	C\$.1323/kg	Free
Raw	Japan	35%	5%
	N. Zealand 3/	Free	Free
	Sweden	0 (Bound)	
	Australia 1/	0 (Bound)	0 (Bound)
Other	Canada	C\$.1323/kg	Free
	Japan	35%	5%
	N. Zealand 3/	Free	Free
	Sweden	0 (Bound)	
Roasted	Australia 1/	0 (Bound)	0 (Bound)
	Canada	C\$.1323/kg	Free
	Japan	35%	5%
	N. Zealand 3/	Free	Free
Raw and roasted	Sweden	0 (Bound)	
	Australia 1/	0 (Bound)	0 (Bound)
	Canada	C\$.1323/kg	Free
	Japan	35%	5%
Raw and Roasted	N. Zealand 3/	Free	Free
	Sweden	0 (Bound)	
	Australia 1/	0 (Bound)	0 (Bound)
	Canada	C\$.1323/kg	Free
Paste--	Japan	35%	5%
	N. Zealand 3/	Free	Free
	Sweden	0 (Bound)	
	Australia 1/	0 (Bound)	0 (Bound)
Defatted	Canada	C\$.1323/kg	Free
	Japan	35%	5%
	N. Zealand 3/	Free	Free
	Sweden	0 (Bound)	
United States 4/	Australia 1/	0 (Bound)	0 (Bound)
	Canada	C\$.1323/kg	Free
	Japan	35%	5%
	N. Zealand 3/	Free	Free

See footnotes at end of table.

Continued--

Appendix table 3--Uruguay Round concessions for selected tropical products--Continued

Commodity	Conceding party	Base duty rate	New duty rate
Cocoa--continued			
Paste--			
Not defatted	Australia 1/ EC Finland Japan	0 (Bound) 15% 3.8% 10% (Bound); GSP 5%	0 (Bound) 12% 3% GSP 3.5%
	Norway Sweden EC	0 (Bound) 0 (Bound) 12%	0 (Bound) 9%
Butter, fat, oil	Finland Japan N. Zealand 3/ Norway Sweden	2% (GSP 0%) 2.5% (Bound) Free 0 (Bound) GSP 0%	1.8% 0 Free 0 (Bound)
Powder	Australia 1/ EC Finland N. Zealand 3/ Norway Sweden United States	0 (Bound) MFN 27% (Bound); GSP 7%; LDC 7% 16% 10%; GSP 0% 25.5% NOK .40/kg GSP 0% \$.082/kg	0 (Bound) LLDC 0% 12% 6% 15% NOK .33/kg \$.062/kg 4/
Misc. tropical fruit:			
Bananas and plantains	Finland (Bunches 6/1-5/31) (Bunches 12/31-6/1) (Other 1/1-5/31) (Other 6/1-12/31) Japan (4/1-9/30) (10/1-3/31) N. Zealand 3/ Norway Sweden United States United States N. Zealand 3/	13%; GSP 0% 20%; GSP 0% 24%; GSP 0% 40%; GSP 0% 30%; GSP 12.5% 30%; GSP 25% Free 0 (Bound) 0 (Bound) 3.5% 3% Free	7% 8.6% 9.2% 10.9% GSP 10% GSP 20% Free 0 (Bound) 2.6% 4/ 2.3% 4/ Free
Bananas, dried	United States	3.5%	2.6% 4/
Plantains, dried	United States	3%	2.3% 4/
Dates, figs, pineapples, avocados, guavas, mangos, mangosteens	N. Zealand 3/	Free	Free
Dates	Australia 1/ Finland Norway Sweden Norway Sweden	0 (Bound) 4%; GSP 0% NOK .15/kg 0 (Bound) 0 (Bound) 0 (Bound)	0 (Bound) 3.2% NOK .14/kg 0 (Bound)
Pineapples	Malaysia Norway Sweden	\$400.90/ton NOK .20/kg 0 (Bound)	\$400/ton NOK .18/kg
Avocados	EC Norway Sweden	MFN 6% NOK .20/kg 0 (Bound)	MFN 4% NOK .18/kg
Guavas, mangos, mangosteens	N. Zealand 3/ EC Sweden	Free MFN 4% 0 (Bound)	Free MFN 2%
Melons and papayas	N. Zealand 3/ Sweden	Free 0 (Bound)	Free
Payayas	EC Sweden	MFN 4% 0 (Bound)	MFN 2%
Other fruit	N. Zealand 3/ Sweden	Free 0 (Bound)	Free
Berries, tamarinds, kiwi Berries	EC Norway United States	MFN 12% NOK .30/kg 7%	MFN 7.5% NOK .27/kg 5.3% 4/
Cashew apples, mameyes, colorados, sapodillas, soursops, and sweetsops			
Other:			
Green peppers	Malaysia	5%/ton	3%/ton
Apples	Thailand	60% or 30	30% or 20 baht/kg

1/ Australia also maintains a 5-percent GSP margin on MFN rates for all tropical products where applicable. Australia is prepared to negotiate the bindings of all tropical product tariffs. Reductions to apply from July 1, 1988.

2/ To be implemented with approval of the Austrian Parliament with the aim of implementing as soon as possible in 1989. MFN-binding offered conditionally until satisfactory end of Round, and subject to burden sharing and to appropriate contributions.

3/ To be phased in by July 1, 1992. Will consider binding on all tariff items on the basis of reciprocal commitments in market access negotiations from other Round participants.

4/ Binding dependent on outcome of agricultural negotiations.

Source: Foreign Agricultural Service, U.S. Department of Agriculture

Appendix table 4--Tariffs, ad valorem equivalents, and quotas applied to selected U.S. fresh fruit and vegetable imports

Commodity	Tariffs and fees	<u>Ad valorem</u> equivalent 1/	Import quota or other quantitative restriction
	<u>Cents/kilogram</u>	<u>Percent</u>	
Potatoes	0.77	3.7	Federal marketing order 2/
Tomatoes:			Federal marketing order
3/1-7/14	4.60	11.5	
7/15-8/31	3.30	8.0	
9/1-11/14	4.60	11.5	
11/15-2/28	3.30	7.0	
Lettuce, head and other:			
6/1-10/31	.88		
Other	4.40		
Onions	3.90	8.9	Federal marketing order
Cucumbers:			Federal marketing order
12/1-2/28	4.90	21.8	
3/1-4/30	6.60	35.9	
5/1-6/30	6.60	17.8	
7/1-8/31	3.30	5.8	
9/1-11/30	6.60	NA	
Peppers	5.50	10.0	
Bananas	Free	Free	
Apples	Free	Free	
Oranges	2.20	7.8	Federal marketing order
Tangerines 3/	2.20	6.6	
Grapes:			Federal marketing order
2/15-3/31	141.00	NA	
4/1-6/30	Free	NA	
7/1-2/14	212.00	NA	
Strawberries:			
6/15-9/15	.40	1.0	
9/16-6/14	1.70	1.6	
Peaches and nectarines:			
6/1-11/30	.40	1.0	
12/1-5/31	Free		

NA=Not available.

1/ Tariff as a percentage of 1988 average import value.

2/ Imports must meet same minimum grade or quality standards as domestic item when Federal marketing order is in effect.

3/ Includes mandarins, clementines, and satsumas.

Source: (71).

Appendix table 5--Tariffs, ad valorem equivalents, and quotas applied to selected Economic Community fresh fruit and vegetable imports

Commodity	Tariffs and fees	<u>Ad valorem</u> equivalent	Import quota or other quantitative restriction
	<u>ECU/100 kilograms</u>	<u>Percent</u>	
Potatoes:			
New, 1/1-5/15		15	
5/16-6/30		21	
Other		18	
Tomatoes:			
11/1-5/14	min 2	11	Also subject to countervailing duty charges under certain conditions
5/15-10/31	min 3.5	18	
Lettuce (cabbage):			
1/4-11/30	min 2.5	15	
12/1-3/31	min 1.6	13	
Onions		12	
Cucumbers:			
11/1-5/15		16	Also subject to countervailing duty charges under certain conditions
5/16-10/31		20	
Peppers		11	
Bananas		20	Duty exemption granted in W. Germany within limits of a tariff quota
Apples:			
8/1-12/31	min 2.4	14	Also subject to countervailing duty charges under certain conditions
1/1-3/31	min 2.3	10	
4/1-7/31	min 1.4	8	
Oranges, sweet:			
4/1-4/30		15	Also subject to countervailing duty charges under certain conditions
5/1-5/15		15	
5/16-10/15		15	
10/16-3/31			
Tangerines 1/		20	Also subject to countervailing duty charges under certain conditions
Grapes table:			
11/1-7/14		18	Also subject to countervailing duty charges under certain conditions
7/15-10/31		18	
Strawberries:			
5/1-7/31	min 3.0	16	
8/1-4/30		16	
Peaches and nectarines		22	Also subject to countervailing duty charges under certain conditions

1/ Includes mandarins, satsumas, clementines, wilkings, and citrus hybrids.

Source: (18).

Appendix table 6--Tariffs, ad valorem equivalents, and quotas applied to selected Japanese fresh fruit and vegetable imports

Commodity	Tariffs and fees	<u>Ad valorem</u> equivalent	Import quota or other quantitative restriction
	<u>Yen/kilogram</u>	<u>Percent</u>	
Potatoes		5/mt	Plant quarantine law and food sanitation law
Tomatoes		5/mt	"
Lettuce (cabbage and other)		5/kg	"
Onions	Less than 67 yen/kg in value for customs duty	10/kg	"
Cucumbers		5/kg	"
Peppers		5/kg	"
Bananas:			
4/1-9/30		40/kg	Preferential 12.5% or free
10/1-3/31		50/kg	Preferential 25% or free
Apples		20/kg	Plant quarantine law and food sanitation law
Oranges:			
6/1-11/30		20/kg	"
12/1-5/31		40/kg	"
Tangerines 1/		20/kg	"
Grapes:			
11/1-2/28		13/kg	"
3/1-10/31		NA	"
Strawberries		10/kg	"
Peaches and nectarines		10/kg	"

NA=Not available.

1/ Includes mandarins, satsumas, clementines, wilkings, and citrus hybrids.

Source: (34).

Appendix table 7--Tariffs, ad valorem equivalents, and quotas applied to selected Canadian fresh fruit and vegetable imports

Commodity	Tariffs and fees	Ad valorem equivalent	Import quota or other quantitative restriction
	<u>Canadian dollars</u>	<u>Percent</u>	
Potatoes	0.0076/kg	2.9	
Tomatoes	0.0551/kg, nlt 15%	15.0	
Lettuce (cabbage and other)	0.0276/kg, nlt 15%	15.0	
Onions	0.007-.011/kg, nlt 12.5-15%	12.5-15.0	
Cucumbers	0.0496/kg, nlt 15%	15.0	Tariff in effect for up to 30 weeks
Peppers	0.009/kg, nlt 10%	10.0	Tariff in effect for up to 12 weeks
Bananas	Free	Free	
Apples	Free	Free	
Oranges	Free	Free	
Tangerines 1/	Free	Free	
Grapes	Vinifera free, Labrusca .005/kg		In effect 15 weeks, otherwise free
Strawberries	0.014/kg, nlt 10%	10.0	
Peaches and nectarines	0.014/kg, nlt 12.5%	12.5	In effect 14 weeks, otherwise free

nlt=not less than.

1/ Includes mandarins, clementines, and satsumas.

Source: (23).

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